ADVANCED SOIL ENGINEERING

GEOTECHNICAL CONSULTING ENGINEERS
CONCRETE AND MATERIAL TESTING LABORATORIES

P.O. BOX 1286
ISABELA, P.R. 00662-1286

TEL: (787) 830-0366
FAX: (787) 830-8962

To : U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

From : Advanced Soil Engineering, Corp.

Subject : Reply to a Notice of Violation

Date : September 17, 2014

In response to the August 19, 2014 Notice of Violation we have prepared the following enclosed reply. We understand the importance of complying with our license and the Code of Federal Regulations. We feel we have made significant strides to improve our program and insure compliance both now and in the future.

Sincerely,

Rafael González, RSO
Advanced Soil Engineering, Corp.

Docket No. 030-34756
License No. 52-25436-01

Enclosure:
Reply to a Notice of Violation

Cc w/Encl: Regional Administrator, Region I

IE07
RAHF

REPLY TO A NOTICE OF VIOLATION

This is the information that you requested in response to the "Notice of Violation" that we received and dated August 19, 2014.

Violation A: Radiation Safety Program Issues

1. The violation is accepted as stated.
2. Reason for the violation: Not review the radiation protection program content and implementation annually.
3. Corrective action was taken conducting the Radiation Safety Program and a task was placed on an Outlook Calendar System for easy notification for Radiation Safety Officer and administrative assistant.
4. Date of full compliance was June 25, 2014.

Violation B: Physical controls to secure portable gauges

1. The violation is accepted as stated.
2. Reason for the violation: Did not use a minimum of two independent physical controls.
3. Corrective action was taken immediately with speaking to all of the authorized users and remind them of the requirement to secure the gate and door after placing portable gauges in the room for storage.
4. Date of full compliance was June 4, 2004.

Violation C: Refresher Training

1. The violation is accepted as stated.
2. Reason for the violation: The users (Hazmat employees), all authorized users had not received refresher training for a period of time in excess of three years.
3. Corrective action was taken placing on an Outlook Calendar System for easy notification for Radiation Safety Officer and administrative assistant. The refresher training is on scheduled on mid-October by Mr. David M. Rhoe from CRMI.
   Date of full compliance will be on October 18, 2014

Violation D: Leak Testing

1. The violation is accepted as stated.
2. Reason for the violation: There was an inattention to the details of the license conditions.
3. Corrective action was taken conducting the leak test of all gauges by Mr. David M. Rhoe from CRMI. With better knowledge of our license and conditions applications we put on Outlook calendar the time of renewal. As you mention the leak test frequency requirement for CPN Model MC-1 gauges is annual.
4. Date of full compliance was June 21, 2014.

Violation E: Check out/check in log

1. The violation is accepted as stated.
2. Reason for the violation: Failure to complete the gauge log book with all of the required information when signing the gauges out of and into storage.
3. Corrective action was taken with the RSO speaking to the individuals involved and remind them of the requirement to completely fill out the information in the gauge log
4. Date of full compliance was June 5, 2014.

If you have any questions or need any further information, please feel free to contact me at the address above.

Sincerely,

Rafael González, RSO
Advanced Soil Engineering, Corp.

LEAK TEST RECORD

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Advanced Soil	
Leak Tested By:	David Rhoe	
Standard Source (NIST tracable):	Am-241	Cs-137 NES-139S
Standard Activity (uCi):	1.145	0.105
Standard Date	15-Nov-98	09-Sep-88
Date of the Leak Test:	21-Jun-14	
Decay Activity uCi (from decay chart):	1.11665	0.05784
Standard (dpm):	2478963	128404.8
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	141142	33915
Counting Efficiency:	0.06	0.26
Counting Efficiency in percentage (%):	5.69	26.41
Counting time (minutes)	1	1
Background (cpm)	118	118
Minimum Detectable Activity:	1.215E-04	2.620E-05

Wipe (Smear) Test: All external or accessable surfaces of the source or housing are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured.
Note: Background counts were not subtracted form wipe test sample to calculate sample activity.

Source ID and Serial Number	Wipe Test	Sample Activity	Gamma Sample Activity
Am-241 & Cs-137 SnMD80904543	126	0.00100	0.00021

This test reveals that 0.005 microcuries or less was present as removable contamination.
Should the removable contamination exceed 0.005 microcuries, the source must be removed from use and necessary measures taken according to NRC regulations.

David Rhoe Health/Medical Physicist

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Advanced Soil	
Leak Tested By:	David Rhoe	
Standard Source (NIST tracable):	Am-241	Cs-137 NES-139S
Standard Activity (uCi):	1.145	0.105
Standard Date	15-Nov-98	09-Sep-88
Date of the Leak Test:	21-Jun-14	
Decay Activity uCi (from decay chart):	1.11665	0.05784
Standard (dpm):	2478963	128404.8
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	141142	33915
Counting Efficiency:	0.06	0.26
Counting Efficiency in percentage (%):	5.69	26.41
Counting time (minutes)	1	1
Background (cpm)	118	118
Minimum Detectable Activity:	1.215E-04	2.620E-05

Wipe (Smear) Test: All external or accessable surfaces of the source or housing are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured.
Note: Background counts were not subtracted form wipe test sample to calculate sample activity.

			Gamma
Source ID and Serial Number	Wipe Test	Sample Activity	Sample Activity
Am-241 & Cs-137 SnMD90304916	129	0.00102	0.00022

This test reveals that 0.005 microcuries or less was present as removable contamination.
Should the removable contamination exceed 0.005 microcuries, the source must be removed from use and necessary measures taken according to NRC regulations.

David Rhoe Health/Medical Physicist

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Advanced Soil	
Leak Tested By:	David Rhoe	
Standard Source (NIST tracable):	Am-241	Cs-137 NES-139S
Standard Activity (uCi):	1.145	0.105
Standard Date	15-Nov-98	09-Sep-88
Date of the Leak Test:	21-Jun-14	
Decay Activity uCi (from decay chart):	1.11665	0.05784
Standard (dpm):	2478963	128404.8
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	141142	33915
Counting Efficiency:	0.06	0.26
Counting Efficiency in percentage (%):	5.69	26.41
Counting time (minutes)	1	1
Background (cpm)	118	118
Minimum Detectable Activity:	1.215E-04	2.620E-05

Wipe (Smear) Test: All external or accessable surfaces of the source or housing are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured.
Note: Background counts were not subtracted form wipe test sample to calculate sample activity.

Source ID and Serial Number	Wipe Test	Sample Activity	Gamma Sample Activity
Am-241 & Cs-137 SnMD30607024	137	0.00108	0.00023

This test reveals that 0.005 microcuries or less was present as removable contamination.
Should the removable contamination exceed 0.005 microcuries, the source must be removed from use and necessary measures taken according to NRC regulations.

David Rhoe Health/Medical Physicist

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Advanced Soil	
Leak Tested By:	David Rhoe	
Standard Source (NIST tracable):	Am-241	Cs-137 NES-139S
Standard Activity (uCi):	1.145	0.105
Standard Date	15-Nov-98	09-Sep-88
Date of the Leak Test:	21-Jun-14	
Decay Activity uCi (from decay chart):	1.11665	0.05784
Standard (dpm):	2478963	128404.8
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	141142	33915
Counting Efficiency:	0.06	0.26
Counting Efficiency in percentage (%):	5.69	26.41
Counting time (minutes)	1	1
Background (cpm)	118	118
Minimum Detectable Activity:	1.215E-04	2.620E-05

Wipe (Smear) Test: All external or accessable surfaces of the source or housing are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured.
Note: Background counts were not subtracted form wipe test sample to calculate sample activity.

Source ID and Serial Number	Wipe Test	Sample Activity	Gamma Sample Activity
Am-241 & Cs-137 SnMD50207726	143	0.00113	0.00024

This test reveals that 0.005 microcuries or less was present as removable contamination.
Should the removable contamination exceed 0.005 microcuries, the source must be removed from use and necessary measures taken according to NRC regulations.

David Rhoe Health/Medical Physicist

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Advanced Soil	
Leak Tested By:	David Rhoe	
Standard Source (NIST tracable):	Am-241	Cs-137 NES-139S
Standard Activity (uCi):	1.145	0.105
Standard Date	15-Nov-98	09-Sep-88
Date of the Leak Test:	21-Jun-14	
Decay Activity uCi (from decay chart):	1.11665	0.05784
Standard (dpm):	2478963	128404.8
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	141142	33915
Counting Efficiency:	0.06	0.26
Counting Efficiency in percentage (%):	5.69	26.41
Counting time (minutes)	1	1
Background (cpm)	118	118
Minimum Detectable Activity:	1.215E-04	2.620E-05

Wipe (Smear) Test: All external or accessable surfaces of the source or housing are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured.
Note: Background counts were not subtracted form wipe test sample to calculate sample activity.

Source ID and Serial Number	Wipe Test	Gamma Sample Activity	Gamma Sample Activity
Am-241 & Cs-137 SnMD50207731	133	0.00105	0.00023

This test reveals that 0.005 microcuries or less was present as removable contamination.
Should the removable contamination exceed 0.005 microcuries, the source must be removed from use and necessary measures taken according to NRC regulations.

David Rhoe Health/Medical Physicist

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Advanced Soil	
Leak Tested By:	David Rhoe	
Standard Source (NIST tracable):	Am-241	Cs-137 NES-139S
Standard Activity (uCi):	1.145	0.105
Standard Date	15-Nov-98	09-Sep-88
Date of the Leak Test:	21-Jun-14	
Decay Activity uCi (from decay chart):	1.11665	0.05784
Standard (dpm):	2478963	128404.8
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	141142	33915
Counting Efficiency:	0.06	0.26
Counting Efficiency in percentage (%):	5.69	26.41
Counting time (minutes)	1	1
Background (cpm)	118	118
Minimum Detectable Activity:	1.215E-04	2.620E-05

Wipe (Smear) Test: All external or accessable surfaces of the source or housing are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured.
Note: Background counts were not subtracted form wipe test sample to calculate sample activity.

Source ID and Serial Number	Wipe Test	Sample Activity	Gamma Sample Activity
Am-241 & Cs-137 SnMD60808431	118	0.00093	0.00020

This test reveals that 0.005 microcuries or less was present as removable contamination.
Should the removable contamination exceed 0.005 microcuries, the source must be removed from use and necessary measures taken according to NRC regulations.

David Rhoe Health/Medical Physicist

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Advanced Soil	
Leak Tested By:	David Rhoe	
Standard Source (NIST tracable):	Am-241	Cs-137 NES-139S
Standard Activity (uCi):	1.145	0.105
Standard Date	15-Nov-98	09-Sep-88
Date of the Leak Test:	21-Jun-14	
Decay Activity uCi (from decay chart):	1.11665	0.05784
Standard (dpm):	2478963	128404.8
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	141142	33915
Counting Efficiency:	0.06	0.26
Counting Efficiency in percentage (%):	5.69	26.41
Counting time (minutes)	1	1
Background (cpm)	118	118
Minimum Detectable Activity:	1.215E-04	2.620E-05

Wipe (Smear) Test: All external or accessable surfaces of the source or housing are wiped with a piece of filter paper or other absorbent material which has been moistened with an appropriate solvent and the activity removed is measured.
Note: Background counts were not subtracted form wipe test sample to calculate sample activity.

Source ID and Serial Number	Wipe Test	Sample Activity	Gamma Sample Activity
Am-241 & Cs-137 SnMD60808435	117	0.00093	0.00020

This test reveals that 0.005 microcuries or less was present as removable contamination.
Should the removable contamination exceed 0.005 microcuries, the source must be removed from use and necessary measures taken according to NRC regulations.

David Rhoe Health/Medical Physicist

RADIATION SAFETY PROGRAM

Annual Review of Radiation Safety Program

10 CFR 20 Sub-part B — Radiation Protection Programs 20.1101 (c). The licensee shall periodically (at least annually) review the radiation protection program content and implementation.

1. Is a physical inventory performed every six (6) months and a record maintained for inspection? (If multiple gauges are possessed.)

   ☐ Yes ☒ No, If No, corrective action taken: Since your inspection we conduct an Inventory Nuclear Gauge List enclosed

2. Are leak-tests performed on all gauges, including rental gauges, at intervals not to exceed one year and certificates retained for inspection for a period of three (3) years or until inspected, whichever is longer? Is a current leak test certificate in every gauge shipping container?

   ☐ Yes ☒ No, If No, corrective action taken: Immediatly after NRC personnel visit and findings we conduct the leak test of all gauges. Copy of leak test enclosed.

3. Are entries made in the check-out/check-in log prior to/following transport and use at temporary job sites?

   ☐ Yes ☒ No, If No, corrective action taken: Since March we posted an in-out log at the gauge storage location and oriented our personnel to the importance to record the activities

4. Are recipients licenses obtained to verify that possession is authorized, before transfer of gauges? Has a letter of receipt been obtained upon transfer of possession?

   ☐ Yes ☐ No, If No, corrective action taken: N/A Because we don't transfer the gauges to anyone

5. If a survey meter is specified as a license condition, is it calibrated annually and are calibration records retained for inspection?

   ☐ Yes ☒ No, If No, corrective action taken: Survey meter is not required by license but we purchase one recently and is calibrated

6. Are gauges transported in compliance with 49 CFR (Title 49, Code of Federal Regulations), Transportation? This includes gauges tied down and locked, carrying a shipping paper, and Special Form and Type A Package Authorizations on file.

   ☐ Yes ☒ No, If No, corrective action taken: Gauges transported are in metal box, tied down and locked since your visit.

7. Are personal dosimetry devices used in compliance with the conditions of the License? Are dosimetry records preserved indefinitely?

☒ Yes ☐ No, If No, corrective action taken: _____

8. Have all employees received certification training and annual refresher training on the safe and legal use of radioactive materials? Are records on file for inspection?

☐ Yes ☒ No, If No, corrective action taken: All employees has certification but we failed to conduct refresher training ouce every three years. On March we conducted a refresher training.

9. Are all procedures for the use, storage and possession of radioactive material in compliance with the conditions of the Radiation Safety Plan?

☒ Yes ☐ No, If No, corrective action taken: _____

10. Are all gauges used, serviced, stored, and transported in compliance with the conditions of the Radioactive Materials License?

☒ Yes ☐ No, If No, corrective action taken: _____

11. Is all information on the radioactive material license current?

☒ Yes ☐ No, If No, corrective action taken: _____

Rafael Ramos
Radiation Safety Officer

3/27/09
Date

License No. 52-25436-01

JR/RSO:review-1.lic

Annual Review of Radiation Safety Program

10 CFR 20 Sub-part B — Radiation Protection Programs 20.1101 (c). The licensee shall periodically (at least annually) review the radiation protection program content and implementation.

1. Is a physical inventory performed every six (6) months and a record maintained for inspection? (If multiple gauges are possessed.)

   ☒ Yes ☐ No, If No, corrective action taken: _____

2. Are leak-tests performed on all gauges, including rental gauges, at intervals not to exceed one year and certificates retained for inspection for a period of three (3) years or until inspected, whichever is longer? Is a current leak test certificate in every gauge shipping container?

   ☒ Yes ☐ No, If No, corrective action taken: _____

3. Are entries made in the check-out/check-in log prior to/following transport and use at temporary job sites?

   ☒ Yes ☐ No, If No, corrective action taken: _____

4. Are recipients licenses obtained to verify that possession is authorized, before transfer of gauges? Has a letter of receipt been obtained upon transfer of possession?

   ☐ Yes ☐ No, If No, corrective action taken: N/A Because we don't transfer the gauges to anyone.

5. If a survey meter is specified as a license condition, is it calibrated annually and are calibration records retained for inspection?

   ☒ Yes ☐ No, If No, corrective action taken: Calibration is up to date. Need calibration in a few days.

6. Are gauges transported in compliance with 49 CFR (Title 49, Code of Federal Regulations), Transportation? This includes gauges tied down and locked, carrying a shipping paper, and Special Form and Type A Package Authorizations on file.

   ☒ Yes ☐ No, If No, corrective action taken: _____

7. Are personal dosimetry devices used in compliance with the conditions of the License? Are dosimetry records preserved indefinitely?

☒ Yes ☐ No, If No, corrective action taken: _____

8. Have all employees received certification training and annual refresher training on the safe and legal use of radioactive materials? Are records on file for inspection?

☒ Yes ☐ No, If No, corrective action taken: Training refresher is current shall be made on 2012 as per require one every three years.

9. Are all procedures for the use, storage and possession of radioactive material in compliance with the conditions of the Radiation Safety Plan?

☒ Yes ☐ No, If No, corrective action taken: _____

10. Are all gauges used, serviced, stored, and transported in compliance with the conditions of the Radioactive Materials License?

☒ Yes ☐ No, If No, corrective action taken: _____

11. Is all information on the radioactive material license current?

☒ Yes ☐ No, If No, corrective action taken: _____

Radiation Safety Officer

3/30/2010
Date

License No. 52-25430-01

JR/RSO:review-1.lic

Annual Review of Radiation Safety Program

10 CFR 20 Sub-part B — Radiation Protection Programs 20.1101 (c). The licensee shall periodically (at least annually) review the radiation protection program content and implementation.

1. Is a physical inventory performed every six (6) months and a record maintained for inspection? (If multiple gauges are possessed.)

   ☒ Yes ☐ No, If No, corrective action taken: _____

2. Are leak-tests performed on all gauges, including rental gauges, at intervals not to exceed one year and certificates retained for inspection for a period of three (3) years or until inspected, whichever is longer? Is a current leak test certificate in every gauge shipping container?

   ☒ Yes ☐ No, If No, corrective action taken: The leak test is current at this time. Renewed in September

3. Are entries made in the check-out/check-in log prior to/following transport and use at temporary job sites?

   ☒ Yes ☐ No, If No, corrective action taken: _____

4. Are recipients licenses obtained to verify that possession is authorized, before transfer of gauges? Has a letter of receipt been obtained upon transfer of possession?

   ☐ Yes ☐ No, If No, corrective action taken: N/A Because we don't transfer the gauges to anyone.

5. If a survey meter is specified as a license condition, is it calibrated annually and are calibration records retained for inspection?

   ☐ Yes ☒ No, If No, corrective action taken: Calibration is out of date. Need calibration

6. Are gauges transported in compliance with 49 CFR (Title 49, Code of Federal Regulations), Transportation? This includes gauges tied down and locked, carrying a shipping paper, and Special Form and Type A Package Authorizations on file.

   ☒ Yes ☐ No, If No, corrective action taken: _____

7. Are personal dosimetry devices used in compliance with the conditions of the License? Are dosimetry records preserved indefinitely?

☒ Yes ☐ No, If No, corrective action taken: _____

8. Have all employees received certification training and annual refresher training on the safe and legal use of radioactive materials? Are records on file for inspection?

☒ Yes ☐ No, If No, corrective action taken: Training refresher is current. Shall be made on 2012 as per require one every three years

9. Are all procedures for the use, storage and possession of radioactive material in compliance with the conditions of the Radiation Safety Plan?

☒ Yes ☐ No, If No, corrective action taken: _____

10. Are all gauges used, serviced, stored, and transported in compliance with the conditions of the Radioactive Materials License?

☒ Yes ☐ No, If No, corrective action taken: _____

11. Is all information on the radioactive material license current?

☒ Yes ☐ No, If No, corrective action taken: _____

Radiation Safety Officer

4/5/2011
Date

License No. 52-25436-01

JR/RSO:review-1.lic

Nelson Muñoz Gonzalez

Annual Review of Radiation Safety Program

10 CFR 20 Sub-part B — Radiation Protection Programs 20.1101 (c). The licensee shall periodically (at least annually) review the radiation protection program content and implementation.

1. Is a physical inventory performed every six (6) months and a record maintained for inspection? (If multiple gauges are possessed.)

☐ Yes ☒ No, If No, corrective action taken: Placed notification on an Outlook Calendar System for easy notification. Since your inspection we conduct an inventory Nuclear Gauge enclosed We failed the inventory on 2013.

2. Are leak-tests performed on all gauges, including rental gauges, at intervals not to exceed one year and certificates retained for inspection for a period of three (3) years or until inspected, whichever is longer? Is a current leak test certificate in every gauge shipping container?

☐ Yes ☒ No, If No, corrective action taken: Immediatly after NRC personnel visit we conduct the leak test of all gauges. Copy of leak test enclosed

3. Are entries made in the check-out/check-in log prior to/following transport and use at temporary job sites?

☒ Yes ☐ No, If No, corrective action taken: But we speak to users to improve to completely fill out the information in the gauge log.

4. Are recipients licenses obtained to verify that possession is authorized, before transfer of gauges? Has a letter of receipt been obtained upon transfer of possession?

☐ Yes ☐ No, If No, corrective action taken: N/A. Because we don't transfer the gauges to anyone

5. If a survey meter is specified as a license condition, is it calibrated annually and are calibration records retained for inspection?

☒ Yes ☐ No, If No, corrective action taken: Calibration is up to date Copy of calibration enclosed.

6. Are gauges transported in compliance with 49 CFR (Title 49, Code of Federal Regulations), Transportation? This includes gauges tied down and locked, carrying a shipping paper, and Special Form and Type A Package Authorizations on file.

☒ Yes ☐ No, If No, corrective action taken: _____

7. Are personal dosimetry devices used in compliance with the conditions of the License? Are dosimetry records preserved indefinitely?

☒ Yes ☐ No, If No, corrective action taken: _____

_____

_____

8. Have all employees received certification training and annual refresher training on the safe and legal use of radioactive materials? Are records on file for inspection?

☐ Yes ☒ No, If No, corrective action taken: Is out of date. The refresher training is scheduled on mid-October by Mr. David Rhoe from CRM1. Full compliance will be on 10-8-14

9. Are all procedures for the use, storage and possession of radioactive material in compliance with the conditions of the Radiation Safety Plan?

☒ Yes ☐ No, If No, corrective action taken: _____

_____

_____

10. Are all gauges used, serviced, stored, and transported in compliance with the conditions of the Radioactive Materials License?

☒ Yes ☐ No, If No, corrective action taken: _____

_____

_____

11. Is all information on the radioactive material license current?

☒ Yes ☐ No, If No, corrective action taken: _____

_____

_____

Rafael Vazquez
Radiation Safety Officer

10-25-14
Date

License No. 52-25436-01

JR/RSO:review-1.lic

GAUGE PHYSICAL INVENTORY

ADVANCED SOIL ENGINEERING

GEOTECHNICAL CONSULTING ENGINEERS
CONCRETE AND MATERIAL TESTING LABORATORIES

INVENTORY NUCLEAR GAUGE LIST

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: June 5, 2014
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: _____
Gauge Quantities: _____

Model Number	
MD 80904543	
MD 90304916	
MD 30607024	
MD 50207726	
MD 50207731	
MD 60808431	
MD 60808435	

Radiation Safety Officer

ADVANCED SOIL ENGINEERING

GEOTECHNICAL CONSULTING ENGINEERS
CONCRETE AND MATERIAL TESTING LABORATORIES

INVENTORY NUCLEAR GAUGE LIST

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: Feb. 29, 2012
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: August 30, 2012
Gauge Quantities: _____

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

ADVANCED SOIL ENGINEERING

GEOTECHNICAL CONSULTING ENGINEERS
CONCRETE AND MATERIAL TESTING LABORATORIES

INVENTORY NUCLEAR GAUGE LIST

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: Feb. 25, 2011
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: August 16, 2011
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

ADVANCED SOIL ENGINEERING

GEOTECHNICAL CONSULTING ENGINEERS
CONCRETE AND MATERIAL TESTING LABORATORIES

INVENTORY NUCLEAR GAUGE LIST

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: Feb 23, 2010
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: August 31, 2010
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

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INVENTORY NUCLEAR GAUGE LIST

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: Feb. 20, 2009
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

Manfacturer's Name: **CPN**
Radionuclide: **Americium – 241** and **Cesium – 137**
Date: August 24, 2009
Gauge Quantities: 7

Model Number	
MD 80904543	✓
MD 90304916	✓
MD 30607024	✓
MD 50207726	✓
MD 50207731	✓
MD 60808431	✓
MD 60808435	✓

Radiation Safety Officer

RADIATION SURVEY METER

Universidad Central Del Caribe
CRMI Survey Meter Calibration Service
Instrument Calibration Report
NRC License 52-25430-01

Calibration For: Advanced Soil Engineering
Calibrated By: David Rhoe
Check Source ID: Sn 256356
Check Source mR/hr: 25 mR/hr
Calibration Geometry: Perp

Insrtument: Ludlum Mod# 2401 EW Sn 256356
Calibration Source: Cs-137, Model # 77302, Serial # S-764
Original mR/hr @ 1m: 50.952
Date of original mR/hr: 27-Oct-99
Calibration Date: 11-Jul-14
mR/hr @ 1m on Cal Date: 36.26

Scale mR/hr	Attenuator	Distance meters	mR/hr Calculated	mR/hr Measured	Trigger +/- 20 Percent	Trigger Percent Avgerage
2000	1		1600		#VALUE!	#VALUE!
	4		400		#VALUE!	
200	1	0.48	160	160	1.00	1.06
	4	0.48	40	45	1.13	
20	10	0.48	16	16	1.00	1.06
	40	0.48	4	4.5	1.13	
2	100	0.48	1.6	1.6	1.00	1.06
	400	0.48	0.4	0.45	1.13	
0.2	100		0.16		#VALUE!	#VALUE!
	400		0.04		#VALUE!	

The formula for % Error is (Measured/Calculated)
Trigger limit is +/- 20 percent (Corr Factors from 1.2 to 0.8)