



ETR GROUP

May 8, 2018

United States Nuclear Regulatory Commission
Office of Nuclear Materials Safety and Safeguards
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713

Br. 2
52-31430-01
03038411

REC RG 10522 18MM0553

✓ Attn: Document Control Desk/GLTS

To whom it may concern:

We have transferred:

Manufacturer	CPN
Model number	MC-1 DRP
Serial number	10329
Last leak test date	Feb. 8, 2018
Calibration date	Jan. 26, 2018

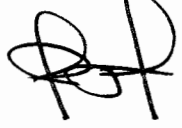
REC RG 10604 18MM1030

Transferred to: SPEC GROUP PSC
Address: A-5 AMUR ST, REPARTO LANDRAU, SAN JUAN PR 00921
B5 CALLE TABONUCO PMB 278 SUITE 216
GUAYNABO, PR 00968-3022

Telephone: 787-502-6639

Date of Transfer: 5/14/18

Receiver license #/state: 52-24862-01 / PUERTO RICO

RSO/Official name: ENGR. PEDRO FEBO, RSO 


REC'D IN LAT 6-4-18

609027
NMSS/RGN1 MATERIALS-002

Condominio Señorial Plaza
Calle Salud 1326 Suite 510, Ponce, PR 00717
P. (787) 840-1581/F. (800) 842-0151
info@etrengineers.com

Reason for transfer: CLOSE OF SOILS & MNT. OPERATIONS

RSO authorized to act on behalf of licensee.



Eliseo Toledo Rodríguez, MECE, PE, PA
President
ETR Group, PSC
License No. 52-31430-01 ✓

CRMI

Paseo de la Fuente, D-4 Calle Tivoli
San Juan, PR 00926
(787) 245-7248, Fax (787) 292-7976

CERTIFICATION OF CALIBRATION NRC License Number 52-25430-01

Customer:	ETR
Model:	MC-1DR-P
Serial No.:	10324
Date of Calibration:	26 Jan 2018

This calibration complies with the following standards listed below using three-calibration blocks for dry density and two calibration blocks for wet density. The calibration blocks are traceable to the U.S. Department of Transportation, which are referenced to the National Bureau of standards.


1. D 2922-91 – Density of soil and soil aggregate in place by nuclear method. ASTM requirements: Minimum calibration frequency of 24 months.
2. D 2950 – Density of bituminous material in place by the nuclear method. ASTM requirements: Minimum calibration frequency of 12 months.
3. D 3017-88 – Moisture content of soil and soil aggregate by the nuclear method. ASTM requirements: Minimum calibration frequency of 24 months.
4. D 6938-15 – In-Place Densities and Moisture Content of Soils and Soil-Aggregate by Nuclear Methods (Shallow Depth) AASHTO requirements: Minimum calibration frequency of 12 months.
5. C1040/C1-40M – In-Place Density of Unhardened and Hardened Concrete, Including Roller Compacted Concrete, By Nuclear Methods.
6. D 7759/D 7759M – Standard Guide for Nuclear Surface Moisture and Density Gauge Calibration.
7. D 7013/D 7013M - Standard Guide for Calibration Facility Setup for Nuclear Surface Gauges.

This certifies that the unit mentioned above meets the calibration requirements as stated in the ASTM/AASHTO standards.

ASTM/AASHTO CALIBRATION REQUIREMENTS: Verify or re-establish calibration curves, table or equation coefficients and after all major repairs which may affect the instrument geometry. Calibration curves, table or equations shall be established or verified once each year by determining by test the nuclear count rate of at least two samples of different known water content.

PUERTO RICO HIGHWAY AUTHORITY CALIBRATION REQUIREMENTS: Yearly.

It is recommended that the nuclear gauge be recalibrated at intervals not to exceed manufacturer recommendations.


David Rhoe, MS, WSO-CHME, WSO-CSI
Health/Medical Physicist

CRMI - NRC License #52-25430-01

Gauge Calibration Report

Gauge Model: MC1 DRP

Serial Number: 10329

Calib. Date: 01/26/2018

Density Std. Cnt: 32999

Moisture Std. Cnt: 9138

Expires: 01/26/2019

Bay Number: 1

Block Type	Low	Med	Granite
Density	110.5	149.5	162.4
S/N	Mag	Limestone	Granite
Depth	Density	Calibration	Counts
BS	21865	14843	12407
AC	43060	29525	23630
2	100729	66403	49824
4	91417	55346	38987
6	67651	36721	24520
8	43860	21200	13781
10	26291	11743	7875
12	15571	6886	4849

Gauge Constants:

Depth	A	B	C	@125 pcf Repeatability
BS	3.15477	56.08804	0.20160	0.67
AC	4.08913	102.43514	-0.12166	0.49
2	10.54759	165.58484	-2.44577	0.29
4	10.68709	120.37183	-1.59145	0.26
6	10.63406	75.23934	-0.48525	0.25
8	11.73918	50.35893	-0.04916	0.27
10	13.42378	36.93115	0.07340	0.32
12	11.69763	31.87565	0.07525	0.42

Moisture Parameters:

Block Type	Low	High	A	B	@15 pcf Repeatability
Density	0	34			
S/N	Mag	Mag/Poly			
	Moisture	Cal Counts	Gauge Constants		
	722	5993	58.9391	-4.6571	0.36

**CRMI - NRC License #52-25430-01
Uncertainty**

Gauge Model: MC1 DRP
 Serial Number: 10329
 Calib. Date: 01/26/2018

Expires: 01/26/2019

Density Std. Cnt: 32999
 Moisture Std. Cnt: 9138
 Bay Number: 1

Gauge Density Estimated Measurement Uncertainty:

Density Depth	Low	Med	Granite
BS	1.31	2.03	2.38
AC	1.13	1.40	1.50
2	0.88	1.07	1.13
4	0.84	1.04	1.10
6	0.82	1.06	1.13
8	0.82	1.13	1.24
10	0.84	1.32	1.55
12	0.92	1.66	2.11

Gauge Moisture Estimated Measurement Uncertainty: 0.97

Note: Expanded uncertainties calculated above are for coverage factor K=2, which defines a measurement confidence level of approximately 95%. These values meet the requirement of ASTM D7759 and D6938. The calculations of uncertainty are based on the calibration facility being compliant to ASTM D7013, with potential influences controlled, such as wall effect, background and operator experience.

Gauge moisture measurement uncertainty is calculated at moisture density value of 240 kg/m3 (15 lb/ft3)

CRMI - NRC License #52-25430-01
Expected Std. Count

Gauge Model: MC1 DRP
 Serial Number: 10329
 Calib. Date: 01/26/2018

Expires: 01/26/2019

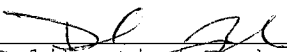
Density Std. Cnt: 32999
 Moisture Std. Cnt: 9138
 Bay Number: 1

Date	From	To
Jan 18	32669	33329
Feb 18	32606	33265
Mar 18	32543	33201
Apr 18	32481	33137
May 18	32418	33073
Jun 18	32356	33010
Jul 18	32294	32946
Aug 18	32232	32883
Sep 18	32170	32820
Oct 18	32108	32757
Nov 18	32046	32694
Dec 18	31985	32631
Jan 19	31923	32568
Feb 19	31862	32505
Mar 19	31800	32443
Apr 19	31739	32380
May 19	31678	32318
Jun 19	31617	32256
Jul 19	31556	32194
Aug 19	31496	32132

Note: The expected density standard counts are based on decay of the Cesium 137 source used for density measurements. The results listed on this calibration report relate only to the gauge listed on this report. This calibration is only intended to be used for construction materials density and moisture measurements for any use outside of this limitation consult the manufacturer.

The blocks used for the calibration of the gauge listed above have density values that are traceable to SI through NIST. The calibration was performed according to ASTM D7013, D7759, D2950, & D6938; AASHTO T310; the manufacturer's recommended procedures. This gauge was mechanically sound and electrically stable prior to calibration.

CRMI - NRC License #52-25430-01


 Calibration Technician

26 Jan 2018
 Date

**CRMI - NRC License #52-25430-01
As Found / As Left Report**

Gauge Model: MC1 DRP
Serial Number: 10329
Calib. Date: 01/26/2018

Density Std. Cnt: 32999
Moisture Std. Cnt: 9138
Bay Number: 1

As Found Condition:

Depth	Low	Error	Med	Error	Granite	Error
	107.9		142.6		162.4	
BS	108.5	0.7	141.8	0.8	161.6	0.8
AC	107.7	0.2	141.5	1.1	160.5	1.9
2	107.5	0.4	141.8	0.8	162.0	0.4
4	107.6	0.3	142.1	0.5	162.3	0.1
6	107.7	0.2	142.0	0.6	162.3	0.1
8	107.5	0.4	142.2	0.4	163.0	0.6
10	107.1	0.8	142.4	0.2	161.3	1.1
12	107.9	0.0	142.2	0.4	162.0	0.4

Actual Moisture Density: 34.0 Measured: 33.0 Error: 1.0

As Left Condition:

Depth	Low	Error	Med	Error	Granite	Error
	107.9		142.6		162.4	
BS	107.9	0.0	142.6	0.0	162.4	0.0
AC	107.9	0.0	142.6	0.0	162.4	0.0
2	107.9	0.0	142.6	0.0	162.4	0.0
4	107.9	0.0	142.6	0.0	162.4	0.0
6	107.9	0.0	142.6	0.0	162.4	0.0
8	107.9	0.0	142.6	0.0	162.4	0.0
10	107.9	0.0	142.6	0.0	162.4	0.0
12	107.9	0.0	142.6	0.0	162.4	0.0

Actual Moisture Density: 34.0 Measured: 34.0 Error: 0.0

Uncertainty of the Calibration blocks were measured at k=2. Actual block densities and repeatability of the measurements is on page 1 of the calibration report.

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	ETR Consulting Engineers	
Leak Tested By:	David Rhoe	
Standard Source (NIST traceable):	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:	08-Feb-18	
Decay Activity uCi (from decay chart):	1.11021	0.05322
Standard (dpm):	2464666.2	118148.4
Instrument used to count wipe sample:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number:	8044788	
NIST Traceable Standard (cpm)	672561	37495
Counting Efficiency:	0.27	0.32
Counting Efficiency in percentage (%):	27.29	31.74
Counting time (minutes)	1	1
Background (cpm)	80	80
Minimum Detectable Activity:	2.088E-05	1.795E-05

Wipe (Smear) Test: All external or accessible 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 from wipe test sample to calculate sample activity.

Source ID and Serial Number	Wipe Test	Sample Activity	Gamma Sample Activity
Am-241 & Cs-137 Sn 10329	115	0.00019	0.00016

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

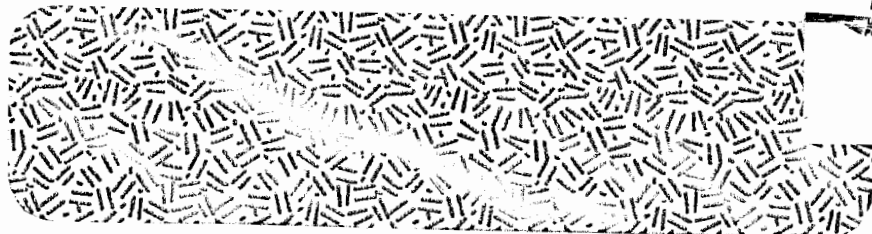
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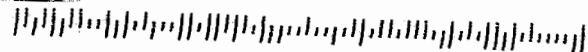
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ACKNOWLEDGEMENT - RECEIPT OF CORRESPONDENCE

Name and Address of Applicant and/or Licensee ETR Group, PSC Attn: Eliseo Toledo Rodriguez Condominio El Seniorial Plaza Calle Salud 1326 Suite 510 Ponce, PR 00717	Date 06/12/2018
	License Number(s) 52-31430-01
	Mail Control Number(s) 609027
	Licensing and/or Technical Reviewer or Branch Comm, Industrial, R&D, and Academic Branch

This is to acknowledge receipt of your: Letter and/or Application Dated: 05/08/2018

The initial processing, which included an administrative review, has been performed.
 Amendment Termination New License Renewal

There were no administrative omissions identified during our initial review.

This is to acknowledge receipt of your application for renewal of the material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

Your application for a new NRC license did not include your taxpayer identification number. Please complete and submit NRC Form 531, Request for Taxpayer Identification Number, located at the following link: <http://www.nrc.gov/reading-rm/doc-collections/forms/nrc531.pdf>
 Follow the instructions on the form for submission.

The following administrative omissions have been identified:

Your application has been assigned the above listed MAIL CONTROL NUMBER. When calling to inquire about this action, please refer to this control number. Your application has been forwarded to a technical reviewer. Please note that the technical review, which is normally completed within 180 days for a renewal application (90 days for all other requests), may identify additional omissions or require additional information. If you have any questions concerning the processing of your application, our contact information is listed below:

Region I
U. S. Nuclear Regulatory Commission
Division of Nuclear Materials Safety
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713
(610) 337-5260, (610) 337-5313,
(610) 337-5398, or (610) 337-5239