FAX COVER SHEET

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TO: NRC

Att: **Mr. Craig Gordon**

Via fax: 1-610-337-5269

DATE: 1/5/2011

Project:

From: Carmelo Calderón, PE
Vice President Highway Division

As requested, a copy of the following documents are enclosed herewith:
a) Certification of calibration for Nuclear Gage C-200, S/N L-508, performed on September 8, 2010.
b) Leak Test Record for Nuclear Gage C-200, S/N L-508, performed on October 1, 2010.

Calibration and leak test were performed by Mr. David Rhoe, (787)-245-7248, e-mail: crmidmr@aol.com.

The above is submitted to you for:

	Your Approval		Distribution
X	Your files		Field Measurements
	Other		

CRMI

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CERTIFICATION OF CALIBRATION
NRC License Number 52-25430-01

Customer:	Del Valle Group
Model:	C-200
Serial No.:	L-508
Date of Calibration:	September 8, 2010

This calibration complies with the ASTM Standards D 2922-91, D 2950, and D 3017-88. These standards 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.

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

ASTM 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

Seaman C-200 L-508

CRMI Nuclear Gauge Verification
Instrument Calibration Report
NRC License 52-25430-01

Verification For: Del Valle Group
Verified By: David Rhoe

Instrument: Seamans Mod# C-200 Sn L-508

Calibration Standards: Magnesium 110.24 PCF
Limestone 144.59 PCF
Granite 162.4 PCF
Magnesium/Poly 34.0 PCF

Calibration Date: 8-Sep-10

Std Density Counts: 1623
Std Moisture Counts: 414.8

	Touchable Measured Bulk Density			Moisture
Block	Magnesium	Limestone	Granite	Magnesium/Poly
PCF of calibration block	110.24	144.59	162.39	34.0
Measured Density	110.2	144.5	161.8	35.7
Density difference (Standard - Measured)	0.04	0.09	0.59	-1.7
Trigger limit for calibration	+/- 2 PCF	+/- 2 PCF	+/- 2 PCF	+/- 2 PCF

	Untouchable Measured Bulk Density			Moisture
Block	Magnesium	Limestone	Granite	Magnesium/Poly
PCF of calibration block	110.24	144.59	162.39	34.0
Measured Density	111.1	144.6	162.5	35.9
Density difference (Standard - Measured)	-0.86	-0.01	-0.11	-1.9
Trigger limit for calibration	+/- 2 PCF	+/- 2 PCF	+/- 2 PCF	+/- 2 PCF

Leak Test Record
NRC License 52-25430-01

Leak Tested For:	Del Valle Group	
Leak Tested By:	David Rhoc	
Standard Source:	Cs-137 Lot 079	
Standard Activity:	0.1	uCi Nominally
Date of Standard:	Nov. 1, 1986	
Date of Leak Test:	1-Oct-10	
Decay Activity:	0.06304	From decay chart
Standard (dpm):	139948.8	

Instrument:	Beckman Gamma	
Instrument Model Number:	5500	
Instrument Serial Number	8044788	
Standard (cpm)	37760	
Efficiency:	0.26981	27.0 %
Counting time (minutes)	1	
Background (cpm)	302	
Minimum Detectable Activity:	4.103E-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.

Source ID and Serial Number	Wipe Test	Gamma Sample Activity
Ra-226 Sn:L-508	343	0.00057

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 Rhoc Health/Medical Physicist