Simmons, Michelle

From: Mark Redlin <mredlin@nicnd.com>
Sent: Friday, September 16, 2016 9:29 AM
To: Simmons, Michelle
Cc: Jeff Reinholz
Subject: [External_Sender] RE: NRC License Number 33-27403-01 Termination: Deficiency Letter
Attachments: Licensing and Leak Test Data.pdf

Michelle,

In regards to the termination of:

License No. – 33027403-01
Docket No. – 03032405
Control No. - 592848

Please find attached copies of both the Arizona and North Dakota licenses along with leak tests of the nuclear density gauges as requested.

If there is further information needed, please let me know.

Thank you for your assistance in this matter.

Mark Redlin
Safety Manager
Northern Improvement Co.
701-516-7043

From: Simmons, Michelle [mailto:Michelle.Simmons@nrc.gov]
Sent: Tuesday, September 13, 2016 9:52 AM
To: mredlin@nicnd.com
Subject: NRC License Number 33-27403-01 Termination: Deficiency Letter

License N0.: 33-27403-01
Docket No.: 03032405
Control No.: 592848

Mr. Redlin,

This letter is in reference to your request dated August 13, 2016. In order to continue our review of your request to terminate your license, we need the following additional information.

In your letter, you indicated that the portable gauges will be transferred to other material licenses. Please submit a copy of both the Arizona and North Dakota Agreement State material license, along with the most recent leak test results for the portable gauges that you intend to transfer to those prospective material licenses.

Please provide this information by **September 27, 2016**. You may fax your signed response to 817-200-1263, referencing mail control 592848. When you send the fax, you may wish to leave a voicemail or e-mail

message to alert me to look for it. If you are submitting your response by email, the response must be submitted in pdf format. Please send me an e-mail or call me at 817-200-1590 if you have any questions.

Michelle Simmons
Health Physicist
US NRC
1600 East Lamar Blvd.
Arlington, Texas 76011
817-200-1590

ARRA-3

ARIZONA RADIATION REGULATORY AGENCY

RADIOACTIVE MATERIAL LICENSE

Pursuant to Chapter 4, Title 30, Arizona Revised Statutes and Title 12, Chapter 1 of the Arizona Administrative Code and in reliance on statements and representations made to the Agency by the licensee, a license is hereby issued authorizing the acquisition, reception, possession, use and transfer of the radioactive material listed in this license for the purposes and at the places specified. This license is subject to all applicable rules and Agency orders now or hereafter in effect and to the conditions specified. In accordance with application dated May 6, 2015, signed by Chris Graff, License Number 13-032 is hereby renewed in its entirety to read as follows: ALL CHANGES ARE IN BOLD

LICENSEE

1. NAME: Asphalt Paving & Supply Co.

2. ADDRESS: 2425 N. Glassford Hill Road
Prescott Valley, Arizona 86314

3. a. LICENSE NUMBER: 13-032
b. AMENDMENT NO.: 2

4. EXPIRATION DATE: June 30, 2020

5. CATEGORY: C5 (1) - PORTABLE GAUGE

6. Radioactive material (element and mass number)	7. Chemical or physical form	8. Maximum quantity licensee may possess at any time
A. Americium-241/Beryllium	A. Sealed Source (Troxler Drawing No. A-102451)	A. 5 sources, no single source to exceed 1.62 GBq (44 millicuries)
B. Cesium-137	B. Sealed Source (Troxler Drawing No.A-102112)	B. 5 sources, no single source to exceed 333 MBq (9 millicuries)
C. Cesium-137	C. Sealed Source (Troxler Drawing No. A-102112)	C. 1 source not to exceed 337 MBq (9 millicuries)

9. Authorized Use:

A. & B. For use in Troxler Model 3400 Series moisture/density gauge.

C. For use in Troxler Model 4640 thin layer density gauge.

CONDITIONS

10. Radioactive material may be used at the licensee's facility located at Item 2 above and at temporary job sites of the licensee throughout the state of Arizona, wherever the Agency maintains regulatory authority for the use of radioactive materials.

11. The licensee shall comply with the provisions of Title 12, Chapter 1, Arizona Administrative Code; Article 3, Licensing of Radioactive Materials; Article 4, "Standards for Protection Against Radiation"; and Article 10, "Notices, Instructions and Reports to Ionizing Radiation Workers: Inspections".

POST IN ACCORDANCE WITH R12-1-1002

ARIZONA RADIATION REGULATORY AGENCY

RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License Number: 13-032
Amendment Number: 2

12 A. Radioactive material shall be used by, or under the supervision of, individuals who have successfully completed the equipment manufacturers' radiation safety and equipment operation course or other courses with similar content and requirements that have been approved by the Agency.

B. The Radiation Safety Officer shall maintain records listing those individuals who have received the approved training and are qualified to use or supervise the use of radioactive materials.

C. The Radiation Safety Officer for this program is: Christopher Graff

13 A. This license does not authorize the licensee to store a nuclear gauge at home locations over night.

B The licensee shall not allow gauge users to leave gauges unattended during breaks or meal periods.

C. The licensee shall ensure that all gauges are stored in the licensee's facility, and locked in the transport vehicle in accordance with procedures approved by the Agency before leaving all job sites or entering a public access roadway. Gauges that are not under visual control shall be secured from unauthorized removal.

14 The licensee is not authorized to provide initial training to individuals to qualify them to be gauge users.

15 The licensee may transport radioactive material or deliver material to a carrier for transport in accordance with the provisions of Title 12, Chapter 1, Article 15.

16. For purposes of ending the principal activities authorized under this radioactive material license:

A. The license stays in effect beyond the license expiration date. Beyond the expiration date the licensee shall store radioactive material only, until the Agency authorizes its use by license amendment, or the Agency notifies the licensee in writing that the license is terminated.

B. The licensee shall ensure the timeliness of decommissioning of facilities where principal activities are conducted under this license in accordance with Agency requirements.

C. The licensee shall continue to control public access into restricted areas and pay the annual licensing fee until the license is terminated.

17 Except as specifically provided otherwise by this license, the licensee shall possess and use the radioactive material described in Items 6, 7 and 8 of this license in accordance with the statements, representations and procedures contained in:

1 Application dated May 8, 2015, signed by Chris Graff.

ARRA-3 (Cont.)

ARIZONA RADIATION REGULATORY AGENCY

RADIOACTIVE MATERIAL LICENSE
SUPPLEMENTARY SHEET

License Number: 13-032
Amendment Number: 2

The most recent statements, representations, and procedures shall govern if they conflict with previously submitted documents, unless otherwise specified by a license condition, and the Agency's rules shall govern the licensee's statements in applications or letters.

AUBREY V. GODWIN, DIRECTOR

DATE ISSUED:

PRK:AVG:smh

POST IN ACCORDANCE WITH R12-1-1402

NORTH DAKOTA DEPARTMENT OF HEALTH

RADIOACTIVE MATERIAL LICENSE

Pursuant to Section 23-20.1-01 through Section 23-20.1-11 of Chapter 23-20.1 of the North Dakota Century Code, and Article 33-10 of the North Dakota Administrative Code, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess, and use the radioactive materials for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders now or hereafter in effect of the North Dakota Department of Health and to any conditions specified below:

Licensee	3. License Number 33-32706-01 is amended and renewed in its entirety Amendment No. 09
1. Name Northern Improvement Company	4. Expiration Date June 30, 2023
2. Address P.O. Box 2846 Fargo, ND 58108	5. Reference Number 258

6. Radioactive materials (element and mass number)	7. Chemical and/or physical form	8A. Maximum activity per source	8B. Maximum quantity which licensee may possess at any one time
A. Cesium-137	A. Sealed sources (AEA Technology/QSA, Inc. Model CDCW556; Isotope Product Laboratories Model HEG-137)	A. 333 megabecquerels (9 millicuries)	A. Total activity not to exceed 666 megabecquerels (18 millicuries)
B. Cesium-137	B. Sealed sources (Humboldt Scientific, Inc. Dwg. No. 2200064-1)	B. 407 megabecquerels (11 millicuries)	B. Total activity not to exceed 407 megabecquerels (11 millicuries)
C. Americium-241:Beryllium	C. Sealed sources (Humboldt Scientific, Inc. Dwg. No. 2200067-1)	C. 1.63 gigabecquerels (44 millicuries)	C. Total activity not to exceed 1.63 gigabecquerels (44 millicuries)
D. Cesium-137	D. Sealed sources (AEA Technology/QSA, Inc. Model CDCW556; Isotope Product Laboratories Model HEG-137)	D. 333 megabecquerels (9 millicuries)	D. Total activity not to exceed 666 megabecquerels (18 millicuries)
E. Americium-241:Beryllium	E. Sealed sources (AEA Technology/QSA, Inc. Model AMNV.997; Isotope Product Laboratories Models 3021, 3027 or Am1.NO2)	E. 1.63 gigabecquerels (44 millicuries)	E. Total activity not to exceed 3.26 gigabecquerels (88 millicuries)

9. Authorized Use:

A. For use in Troxler Model 4640 Series portable thin layer gauging devices for measuring physical properties of materials.

B. and C. For use in Humboldt Scientific, Inc. Model 5001 portable gauging devices for measuring physical properties of materials.

D. and E. For use in Troxler Model 3440 Series portable gauging devices for measuring physical properties of materials.

CONDITIONS:

10. Licensed material may be used or stored at the licensee's facilities located at:

A. 3820 Morrison Avenue, Bismarck, North Dakota.

B. 4458 - 3rd Avenue West, Dickinson, North Dakota.

C. Temporary job sites of the licensee anywhere in the state of North Dakota, except in areas of exclusive federal jurisdiction. You must obtain reciprocity to work outside of North Dakota or in areas of exclusive federal jurisdiction.

If the jurisdiction status of a federal facility within an Agreement State is unknown, the licensee should contact the federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States under exclusive federal jurisdiction shall be obtained from the U.S. Nuclear Regulatory Commission.

11. A. The licensee shall comply with the following chapters of the North Dakota Radiological Health Rules:

Chapter 33-10-01	General Provisions
Chapter 33-10-03.1	Licensing of Radioactive Material
Chapter 33-10-04.2	Standards for Protection Against Radiation
Chapter 33-10-10.1	Notices, Instructions and Reports to Workers - Inspections
Chapter 33-10-11	Fees for Issuance of License and Registration Certificates and Inspections
Chapter 33-10-13.1	Transportation of Radioactive Material

B. The licensee shall comply with all State and Federal environmental regulations. Issuance of this license does not supersede, replace, or negate any ordinances, codes, rules, or regulations. In

addition, the licensee shall comply with all local fire, zoning, and other applicable ordinances, codes, rules, and regulations as they affect the safe use and storage of radioactive material.

12. A. Licensed material shall be used by individuals who have attended the device manufacturer's training course or any other training course approved by this Department for gauge users; have been instructed in the licensee's operating and emergency procedures; and who have been designated by the licensee's Radiation Safety Officer. Copies of the certificate of training for each user shall be maintained by the licensee.

B. The Radiation Safety Officer (RSO) for this license is Mark Redlin.

13. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.

B. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.

C. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 microcurie) of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate.

D. If the test reveals the presence of 185 becquerels (0.005 microcurie) or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Department regulations. A report shall be filed within 5 days of the test with the Director, Division of Air Quality, North Dakota Department of Health, Gold Seal Center, 918 E Divide Avenue, 2nd Floor, Bismarck, North Dakota, 58501-1947, describing the equipment involved, the test results, and the corrective action taken.

E. Tests for leakage and/or contamination, limited to leak test sample collection, shall be performed by the licensee or by other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. The licensee is not authorized to perform the analysis; analysis of leak test samples must be performed by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

F. Sealed sources need not be tested if they are in storage and not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested

within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

G. Records of leak test results shall be kept in units of becquerels or microcuries and maintained for 3 years.

14. Sealed sources or source rods containing licensed material shall not be opened or sources removed or detached from source rods or gauges by the licensee.

15. The licensee shall conduct a physical inventory every six (6) months to account for all sealed sources and/or devices received and possessed under the license. The records of the inventories shall be maintained for 5 years from the date of each inventory, and shall include the radionuclides, quantities, manufacturer's name and model numbers, location, and the date of the inventory.

16. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage, or when not under the direct surveillance of an authorized user.

17. Except for maintaining labeling as required by North Dakota Radiological Health Rules Chapters 33-10-04.2 and 33-10-13.1, the licensee shall obtain authorization from the Department and the U.S. Nuclear Regulatory Commission before making any changes in the sealed source, device, or source-device combination that would alter the description or specifications as indicated in the respective Certificates of Registration issued either by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or by an Agreement State.

18. Any cleaning, maintenance, or repair of the gauges that requires detaching the source or source rod from the gauge shall be performed only by the manufacturer or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.

19. A. If the licensee uses unshielded sealed sources extended more than 3 feet below the surface, the licensee shall use surface casing that extends from the lowest depth to 12 inches above the surface and other appropriate procedures to reduce the probability of the source or probe becoming lodged below the surface. If it is not feasible to extend the casing 12 inches above the surface, the licensee shall implement procedures to ensure that the cased hole is free of obstruction before making measurements.

B. If a sealed source or a probe containing sealed sources becomes lodged below the surface and it becomes apparent that efforts to recover the sealed source or probe may not be successful, the licensee shall notify the Department and submit the report required by North Dakota Radiological Health Rules Chapter 33-10-03.1 [10 CFR 30.50]. The licensee shall not abandon the sealed source or probe without obtaining the Department's prior written consent.

20. Except as specifically provided otherwise by this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The North Dakota Radiological Health Rules shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the North Dakota Radiological Health Rules.

A. Application dated June 30, 2013.
B. Amendment letter dated July 1, 2016.

FOR THE NORTH DAKOTA DEPARTMENT OF HEALTH

Dated: 7/6/16

By: Terry O'Clair
Terry L. O'Clair, P.E.
Director
Division of Air Quality

TROXLER

Troxler Electronic Laboratories, Inc.
3008 Cornwallis Rd., P.O. Box 12057
Research Triangle Park, NC 27709
Tel: (877) 876-9537 Fax: (866) 391-2759
License: NC 032-0182-1

DELORES ZASTOUPIL
NORTHERN IMPROVEMENT CO.
4458 3RD AVE WEST
DICKINSON, ND 58601

Cust ID 12296

LEAK TEST CERTIFICATE

DEVICE:

Model: 4640B **Serial No:** 67394

SEALED SOURCES:

Serial No.	Measure Date	Nuclide	GBq	mCi
77-12340	10/09/2012	Cs-137	0.296	8

LEAK TEST ANALYSIS:

Sample collected on: 05/13/2016

Sample analyzed on: 05/18/2016 12:43:08 P **Position:** 29

Analyzed by: EM

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.24E+01	1.99E+01
Background measurement (cpm)	0	24
Sample measurement (cpm)	0	27
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	3.8E-01	1.3E+00

This certifies that the leak test results are:

☑ **Less than 185 Bq (0.005 uCi)** ☐ **Greater than 185 Bq (0.005 uCi)**

Rev. 9/2006

TROXLER

Troxler Electronic Laboratories, Inc.
3008 Cornwallis Rd , P.O Box 12057
Research Triangle Park, NC 27709
Tel: (877) 876-9537 Fax: (866) 391-2759
License: NC 032-0182-1

DELORES ZASTOUPIL
NORTHERN IMPROVEMENT CO.
4458 3RD AVE. WEST
DICKINSON, ND 58601

Cust ID 12296

LEAK TEST CERTIFICATE

DEVICE:

Model: 4640 **Serial No:** 1731

SEALED SOURCES:

Serial No.	Measure Date	Nuclide	GBq	mCi
75-9031	02/06/1996	Cs-137	0.296	8

LEAK TEST ANALYSIS:

Sample collected on: 05/13/2016

Sample analyzed on: 05/18/2016 12:44:20 P **Position:** 30

Analyzed by: EM

	ALPHA	BETA-GAMMA
Conversion factor (cpm/Bq)	1.24E+01	1.99E+01
Background measurement (cpm)	0	24
Sample measurement (cpm)	0	37
Activity (Bq)	< MDA	< MDA
Min. Detectable Activity (Bq)	3.8E-01	1.3E+00

This certifies that the leak test results are:

☑ **Less than 185 Bq (0.005 uCi)** ☐ **Greater than 185 Bq (0.005 uCi)**

Rev. 9/2006

Form: 193A Rev 1, 19 Jun 2006

www.qaltek.com
Qal-Tek Associates

1107 Wonder Drive Ste 104
Round Rock, TX 78681
Ph: 512 407-9252
Fax: 512 407-9831

3998 Commerce Circle
Idaho Falls, ID 83401
Ph: 208 523-5557
Fax: 208 524-8470

557 East Juanita Ste 6
Mesa, AZ 85204
Ph: 480 304-5199
Fax: 480 966-9495

SEALED RADIOACTIVE SOURCE LEAK TEST REPORT

Company: Asphalt Paving and Supply Acct#: 103910 Ref#: W15419-065403
Street: 2425 N. Glassford Hill Road
City/St/Zip: Prescott Valley, AZ 86314
Phone: 928-759-2041 Fax: 928-772-7313

Serial Number: **2581** Mfg: Troxler Model: 4640

Leak Test Date: 26-Jan-2016 Leak Test Due Date: 26-Jan-2017

Test Instrument

Test Instrument	Ludlum : 2929 : 115565

Test Instrument Info

MDA	less than 0.005 µCi
alpha efficiency	40
beta efficiency	42.6
Det. Type	ZnS(Ag)
Last Cal. Date	31-Aug-2015

Test Results

Isotope	Activity (mCi)	net alpha CPM	net b/Y CPM	alpha µCi	b/Y µCi	Pass/Fail
				0	0	Pass
Cs137	8 mCi	0	0	0	0	Pass

Comments

Instrument Technician: Travis Bivins
Date of Service: 08-Feb-2016

Qal-Tek Associates certifies that all leak test measurements are performed in accordance with NRC licensee requirements for isotopic detection limits. For this purpose the MDA is below the NRC regulatory limits of <0 005 uCi

Form: 193A Rev 1, 19 Jun 2006

www.qaltek.com
Qal-Tek Associates

1107 Wonder Drive Ste 104
Round Rock, TX 78681
Ph: 512 407-9252
Fax: 512 407-9831

3998 Commerce Circle
Idaho Falls, ID 83401
Ph: 208 523-5557
Fax: 208 524-8470

557 East Juanita Ste 6
Mesa, AZ 85204
Ph: 480 304-5199
Fax: 480 966-9495

SEALED RADIOACTIVE SOURCE LEAK TEST REPORT

Company: Asphalt Paving and Supply Acct#: 103910 Ref#: W15419-065401
Street: 2425 N. Glassford Hill Road
City/St/Zip: Prescott Valley, AZ 86314
Phone: 928-759-2041 Fax: 928-772-7313

Serial Number: **19039** Mfg: Troxler Model: 3440
Leak Test Date: 26-Jan-2016 Leak Test Due Date: 26-Jan-2017

Test Instrument

Test Instrument	Ludlum : 2929 : 115565

Test Instrument Info

MDA	less than 0.005 µCi
alpha efficiency	40
beta efficiency	42.6
Det. Type	ZnS(Ag)
Last Cal. Date	31-Aug-2015

Test Results

Isotope	Activity (mCi)	net alpha CPM	net b/Y CPM	alpha µCi	b/Y µCi	Pass/Fail
Am241	40 mCi	0	0	0	0	Pass
Cs137	8 mCi	0	0	0	0	Pass

Comments

Instrument Technician: Travis Bivins
Date of Service: 08-Feb-2016

Qal-Tek Associates certifies that all leak test measurements are performed in accordance with NRC licensee requirements for isotopic detection limits For this purpose the MDA is below the NRC regulatory limits of <0 005 uCi

LEAK TEST CERTIFICATE

Wipe Date 5/24/16

DESCRIPTION OF DEVICE/SOURCE

Model H-5001 Ser 3531

	SOURCE 1	SOURCE 2
Material	CS-137	AM 241AE
Source Ser	92946R	NJ03821

RSO Name Jeff Reinholtz
Telephone (701) 223-6605

Do Not Write In This Space For HSI Use Only

REMOVABLE ACTIVITY

Bet/Gam 0 uCi Alpha 0 uCi
Humboldt Scientific By [signature]
Date 5/31/16

Instructions

1 Use wipe procedures as described in the device manual.
2 Enter all information under description.
3 Print or type return address in the space provided.
4 Wipe source (s) and put filter paper in the plastic bag.
5 Keep the middle copy and mail this form and bag to Humboldt.
6 Regulations require that sources with removable activity greater than 0.005 uCi be removed from service for repair and decontamination or disposal. Authorities must be notified.

5200174 Return Address Label Please Type or Print Clearly

Northern Improvement Co.
P.O. Box 1254
Bismarck ND 58502 ATTN: Marty

HUMBOLDT SCIENTIFIC INC. 2525 Atlantic Ave., Raleigh, NC 27604, (919) 832-3190

LEAK TEST CERTIFICATE

Wipe Date 11/16/15

DESCRIPTION OF DEVICE/SOURCE

Model H-5001 Ser 3531

	SOURCE 1	SOURCE 2
Material	CS 137	Am 241AE
Source Ser	92946R	NJ03821

RSO Name Jack Kolberg
Telephone (701) 223-6695

Do Not Write In This Space For HSI Use Only

REMOVABLE ACTIVITY

Bet/Gam 0 uCi Alpha 0 uCi
Humboldt Scientific By [signature]
Date 11/23/15

Instructions

1 Use wipe procedures as described in the device manual.
2 Enter all information under description.
3 Print or type return address in the space provided.
4 Wipe source (s) and put filter paper in the plastic bag.
5 Keep the middle copy and mail this form and bag to Humboldt.
6 Regulations require that sources with removable activity greater than 0.005 uCi be removed from service for repair and decontamination or disposal. Authorities must be notified.

5200174 Return Address Label Please Type or Print Clearly

Northern Improvement Co.
P.O. Box 1254
Bismarck ND 58502 ATN: Marty

HUMBOLDT SCIENTIFIC INC. 2525 Atlantic Ave., Raleigh, NC 27604, (919) 832-3190