





**APPENDIX A**  
**FIXED AND PORTABLE GAUGE INSPECTION RECORD (IP 87114)**

REGION III									
Insp. Report #	00-001	License #	21-26172-01			Docket #	030-31668		
Licensee Name	Andrews Material Testings								
Street Address	811 west State Street								
City, State, Zip	St. Johns, MI 48879								
Location (Authorized Site) Being Inspected	Diamondale Farms Housing Complex Diamondale, MI								
Licensee Contact Name	Robert (Bob) Andrews				Phone #	(517)2242642			
Priority	E5	Program Code	3121		Description	Portable gauges			
Date of Last Inspection:		05/30/95			Date of This Inspection		09/15/00		
Type of Insp.	Announced		Routine	X	Initial				
	Unannounced	X	Special						
Next Insp. Date	09/2007	Normal		Reduced		Extended	X		
Justification for change in normal inspection frequency:		Materials Inspection Branch (M.I.B.) is extending the inspection frequency in accordance with MC 2800							
<b>Summary of Findings and Actions</b>									
No violations, Clear 591 or letter issued				X	Non-cited violations				
Violation(s), 591 issued		Violation(s), letter issued							
Follow up on previous violations:									
Inspector - Printed Name		Tony Go							
- Signature		/RA/				Date	9/18/00		
Approved - Printed Name		Geoffrey Wright							
- Signature		/RA/				Date	9/21/00		

PART I-LICENSE, INSPECTION, INCIDENT/EVENT, AND ENFORCEMENT HISTORY	
1.	AMENDMENTS AND PROGRAM CHANGES

License amendments issued since last inspection, or program changes noted in the license.

AMENDMENT #	DATE	SUBJECT
02	09/27/96	License renewal, no program changes as stated on the application.

2.

### INSPECTION AND ENFORCEMENT HISTORY

Unresolved issues; previous and repeat violations; Confirmatory Action Letters; and orders.

**There were two violations identified on the last inspection.**

1. **The licensee's five moisture/density gauges were found unsecured at the licensee's facility. Specifically, the moisture density gauges were stored in an unlocked cabinet.**
2. **The second violation involved in the failure to keep records on leak tests on these licensed gauges between January and June 1994.**

**These violations were corrected by the licensee, however, this inspection involved only on performance-based inspection and leak test records were not inspected at this time.**

3.

### INCIDENT/EVENT HISTORY

List any incidents or events reported to NRC since the last inspection. Citing "None" indicates that regional event logs, event files, and the licensing file have no evidence of any incidents or events since the last inspection.

**The licensee's RSO indicated that his company had not experienced any accidents that resulted in a damaged gauge at temporary job-sites. The licensee had not experienced with any leaking sealed sources since the last inspection, nor the licensee had a gauge stolen from a temporary job site since the last inspection.**

## PART II - INSPECTION DOCUMENTATION

NOTE: References that correspond to each inspection documentation topic are in Inspection Procedure 87114, Appendix B, "Fixed and Portable Gauge Inspection References."

The inspection documentation part is to be used by the inspector to assist with the performance of the inspection. Note that not all areas indicated in this part are required to be addressed during each inspection. However, for those areas not covered during the inspection, a notation ("Not Reviewed" or "Not Applicable") should be made in each section, where applicable.

All areas covered during the inspection should be documented in sufficient detail to describe what activities and procedures were observed and/or demonstrated. In addition, the types of records that were reviewed and the time periods covered by those records should be noted. If the licensee demonstrated any practices at your request, describe those demonstrations. The observations and demonstrations you describe in this report, along with measurements and some records review, should substantiate your inspection findings. Attach copies of all licensee documents and records needed to support violations.

1.	<b>ORGANIZATION AND SCOPE OF PROGRAM</b>
<p>Management organizational structure; authorized locations of use, including field offices and temporary job sites; type, quantity, and frequency of byproduct material use; staff size; delegation of authority.</p>	
<p><b>The inspection involved a performance-based inspection at a temporary job site in Diamondale Farms housing-complex. This location is located about 30 miles from the licensee's facility.</b></p> <p><b>The licensee is a small civil engineering and soil testing company servicing various clients within the State. It employs approximately 10 employees and only five are trained and certified to use of the licensed gauges. The licensee currently possesses five Troxler Model-3400 series gauges stored at the facility as described in the License Condition No. 10. As of the inspection date, the inspector observed that the licensed devices were secured in a locked storage room within the facility. This observation closed the first violation as described in the Item No.2.</b></p> <p><b>During a performance-based inspection, an authorized worker was observed at a temporary job site located in a housing project. He was found to be cognizant of the licensee's operating and emergency procedures. Secondly, this individual was found to be knowledgeable in D.O.T. regulations for transportation of licensed gauges in the public roads. The inspector was able to observe this individual at the site, no problems or security violations were observed. The Troxler device that was used is a Troxler -3430 with a Serial No. 21917 containing nominally 40 mCi {1.5 GBq} of Am-241/Be and 8 mCi {296 MBq} of Cs-137 sealed sources.</b></p> <p><b>During the facility inspection, the storage location was found within the walking distance from the RSO' office, and all licensed devices were stored in a locked storage room.</b></p> <p><b>There were no violations identified during the inspection.</b></p>	
2.	<b>MANAGEMENT OVERSIGHT</b>
<p>Management support to radiation safety; Radiation Safety Officer (RSO); program audits or inspections; as low as is reasonable achievable (ALARA) reviews; control and supervision by authorized users.</p>	
<p><b>The RSO indicated that he travels often to various temporary job sites or as needed in order to inspect individual users.</b></p> <p><b>The inspection determined that, in general, licensed activities, including the use of gauges were conducted safely by the licensee's personnel. The licensee had not experienced any accidents that may have resulted in a damaged gauge at a job site. All licensed activities are performed by the licensee's authorized individuals per applicable license conditions.</b></p>	

3.	<b>FACILITIES</b>
Facilities as described; uses; control of access; engineering controls; calibration facilities; shielding.	
<p><b>When the licensed devices are not used, these devices are stored in a locked storage cabinet located in a locked room dedicated for civil engineering instruments. This storage facility is located away from the labs and hallways. The door to the storage cabinet is posted with “Caution Radiation” and Form-3 signs.</b></p> <p><b>These radioactive materials contained in these gauges are well secured per 10 CFR 20.1801 and 1802. The sealed source is well shielded in its device and storage area is locked.</b></p>	
4.	<b>EQUIPMENT AND INSTRUMENTATION</b>
Operable and calibrated survey instruments; procedures; 10 CFR Part 21 procedures.	
<p><b>This item was not inspected at this time due to performance-based inspection at a temporary job site. On the future inspection, the licensee should be asked whether they have access to a radiation survey instrument to be used on an emergency.</b></p>	
5.	<b>MATERIAL USE, CONTROL, AND TRANSFER</b>
Materials and uses authorized; security and control of licensed materials; and procedures for receipt and transfer of licensed material.	
<p><b>The licensee had not transferred moisture/density gauges containing RAM for disposal. The licensee’s gauges were transported in the licensee’s vehicles to temporary job sites. There were no violations identified on material use, control and transfer.</b></p>	
6.	<b>AREA RADIATION SURVEYS AND CONTAMINATION CONTROL</b>
Radiological surveys; leak tests; inventories; handling of radioactive materials; records; contamination control; public doses.	
<p><b>The inspector was unable to review the licensee’s leak test records at this time, however, the inspector was assured by the RSO that all gauges were leak- tested on six month intervals. He indicated that there was no leakage as of the inspection date.</b></p>	
7.	<b>TRAINING AND INSTRUCTIONS TO WORKERS</b>
Training and retraining requirements and documentation; interviews and observations of routine work; staff knowledge of all routine activities; 10 CFR Parts 19 and 20 requirements; emergency response.	
<p><b>The Technician was interviewed by the inspector at a temporary job site. He was authorized and certified to use this device since 1995. The certifying entity was Troxler Inc., the manufacturer. He was found to be cognizant of the licensee’s operational and emergency procedures regarding handling of the moisture/density gauge at a temporary job site.</b></p>	

8.	<b>RADIATION PROTECTION</b>
<p>Radiation protection program with ALARA provisions; access control; dosimetry; exposure evaluations; dose and survey records and reports; annual notifications to workers; bulletins and other generic communications.</p>	
<p><b>The inspector found that the licensee's personnel at a temporary job site was wearing his Troxler's whole body dosimeter. No problems were identified on the licensee's radiation safety program at the job site based upon conducts of the observed individual.</b></p>	
9.	<b>RADIOACTIVE WASTE MANAGEMENT</b>
<p>Disposal or transfer of sources; packaging, control, and tracking procedures; records.</p>	
<p><b>This is not applicable with the licensee's current license conditions and this item was not inspected at this time.</b></p>	
<p><b>An interview with the RSO revealed that there were no disposals nor transfers of licensed materials to the manufacturer since the last inspection date. Currently, the manufacturer is Troxler Co. No violation of NRC requirements was identified at this time.</b></p>	
10.	<b>DECOMMISSIONING</b>
<p>Records relevant to decommissioning; decommissioning plan/schedule; notification requirements; cost estimates; funding methods; financial assurance; and Timeliness Rule requirements; changes in radiological conditions since decommissioning plan was submitted.</p>	
<p><b>The licensee is not required to submit financial assurance instruments nor decommissioning plans. However, the licensee maintains all records of leak tests of the sealed sources at the licensee's listed facility. No violations were identified with Part 30.35 requirements.</b></p>	
11.	<b>RADIATION TRANSPORTATION</b>
<p>Quantities and types of licensed material shipped; packaging design requirements; shipping papers; hazardous materials HAZMAT communication procedures; return of sources; procedures for monitoring radiation and contamination levels of packages; HAZMAT training; and records and reports.</p>	
<p><b>The licensee's shipping paper contains the proper R.Q., Radioactive Material, Special Form, NOS, UN2974, Class 7. The Type 7A Packaging was labeled Yellow II with appropriate TI values. The TI value on the two sides of the transportation package was found faded. This was corrected by the individual at a temporary job site. Gauge containers were found in compliance DOT requirements. There were no violations of NRC requirements identified during the inspection.</b></p>	

12.	<b>NOTIFICATIONS AND REPORTS</b>			
Reporting and followup of theft; loss; incidents; overexposures; safety-related equipment failures; change in RSO, authorized user; and radiation exposure reports to individuals.				
<b>A search of NMED and an interview with the RSO confirmed that the licensee had not reported an event to NRC. The RSO also confirmed that they had not experienced accidents at temporary job-sites since the last inspection that required reporting at this time. No violations were identified during the inspection.</b>				
13.	<b>POSTING AND LABELING</b>			
Notices; license documents; regulations; bulletins and generic information; area postings; and labeling of containers of licensed material.				
<b>The licensee posted all necessary postings. No violations were identified during the inspection.</b>				
14.	<b>INDEPENDENT AND CONFIRMATORY MEASUREMENTS</b>			
Areas, both restricted and unrestricted, surveyed, and comparison of data with licensee's results and regulations; and instrument type and calibration date.				
<p><b>The inspector utilized Ludlum Model 2403, Serial No. 072517. The survey meter was calibrated on 12/16/99.</b></p> <p><b>The radiation levels for unrestricted areas were at or near background levels of .02 mR/hr (5.16 nC/kg/hr). Radiation surveys of the Troxler gauges showed a normal radiation level profile of &lt;10 mR/hr (&lt;2580 nC/kg/hr) at contact from the gauge's shielded container, and &lt;7 mR/hr (&lt;1806 nC/kg/hr) at the electronic keypad area of the gauge.</b></p> <p><b>A radiation survey of the driver seat indicated a background reading of &lt; 0.02 mR/hr. The moisture density gauge was stored about four feet behind the driver seat. No violations of NRC requirements were identified.</b></p>				
15.	<b>VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES</b>			
State requirement and how and when licensee violated the requirement. For NCVs, indicate why the violation was not cited. Attach copies of all licensee documents needed to support violations.				
<b>No violations of NRC requirements were identified during the inspection.</b>				
16.	<b>PERSONNEL CONTACTED</b>			
Identify licensee personnel contacted during the inspection (including those individuals contacted by telephone). Use # to indicate individual present at entrance meeting. Use * to indicate individual present at exit meeting.				
Name		Title	Phone No.	In Person or By phone

<b>Robert Andrews Rob Reyer</b>		<b>Owner, RSO Technician at the job site</b>		<b>(517)224-2642</b>		<b>In Person In Person</b>	
<b>17.</b>	<b>PERFORMANCE EVALUATION FACTORS (PEFs)</b>						
	A.	Lack of senior management involvement with the radiation safety program and/or RSO oversight			Y		X
	B.	RSO too busy with other assignments			Y		X
	C.	Insufficient staffing			Y		X
	D.	Radiation Safety Committee fails to meet or functions inadequately	N/A	X	Y		N
	E.	Inadequate consulting services or inadequate audits conducted	N/A	X	Y		N
<b>REMARKS:</b> (Consider the above assessment and/or other pertinent PEFs with regard to the licensee's oversight of the radiation safety program.)							
<b>18.</b>	<b>SPECIAL CONDITIONS OR ISSUES</b>						
Special license conditions; year-2000 effects of computer software and embedded systems.							
<b>Not applicable</b>							
<b>PART III - POST- INSPECTION ACTIVITIES</b>							
<b>1.</b>	<b>REGIONAL FOLLOWUP ON PEFs</b>						
<b>None</b>							
<b>2.</b>	<b>DEBRIEF WITH REGIONAL STAFF</b>						
Post-inspection communication with supervisor, regional licensing staff, Agreement State Officer; and/or State Liaison Officer.							
<b>The Chief of M.I.B. was briefed on 09/18/00.</b>							
<b>3.</b>	<b>YEAR-2000 ISSUES</b>						
Convey, to the NMSS Year-2000 Coordinator, all year-2000 licensee-identified problems and corrective actions taken.							
<b>Not applicable at this time</b>							

**TO ADVANCE TO NEXT SECTION - PUSH PAGE DOWN KEY**

**END**