

9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR SERVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Moisture Density Gauge	Troxler Electronics	3400 series
(2)			
(3)			
(4)			

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A.	MANUFACTURER'S NAME B.	MODEL NUMBER C.	NUMBER AVAILABLE D.	RADIATION DETECTED (alpha, beta, gamma, neutron) E.	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F.
(1)	NONE					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY N/A	<input type="checkbox"/> b. CALIBRATED BY APPLICANT <i>Attach a separate sheet describing method, frequency and standards used for calibrating instruments.</i>
--	--

12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A.	SUPPLIER (Service Company) B.	EXCHANGE FREQUENCY C.
<input checked="" type="checkbox"/> (1) FILM BADGE "G" <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	R. S. Landauer, Hr. Co. Glenwood Science Park Glenwood, Illinois 60425 (312) 755-7000	<input type="checkbox"/> MONTHLY <input checked="" type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER (Specify): _____ _____ _____

13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

<input type="checkbox"/> a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC. <input type="checkbox"/> b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC. <input type="checkbox"/> c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC. See: Attached sketch <input type="checkbox"/> d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED Source will be returned to manufacturer (Troxler)
b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE. Application is for sealed sources and devices will be returned to manufacturer for proper disposal.

8012454195 18 pp.

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

See attached instructions for details.

Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

X a. NEW LICENSE
b. AMENDMENT TO:
LICENSE NUMBER
c. RENEWAL OF:
LICENSE NUMBER

L+L 19327

30-19035

2. APPLICANT'S NAME (Institution, firm, person, etc.)

Brackenrich & Associates, Inc.

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
(304) 645-6235

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

J. D. Brackenrich

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION
(304) 645-6235

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)

P.O. Box 207, U.S. 219 North
Lewisburg, W.V. 24901

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED
(Include Zip Code)

At address listed in #4 and at temporary jobsites anywhere NRC maintains jurisdiction, W.V.:Va. Pa.

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL
(See Items 16 and 17 for required training and experience of each individual named below)

FULL NAME	TITLE
a. Phillip Wade	Soils - Inspector
b. Joe Loudermilk	Soils - Inspector & Asst. Safety Director
c. J. D. Brackenrich	Engineer

7. RADIATION PROTECTION OFFICER

J. D. Brackenrich

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

8. LICENSED MATERIAL

L I N E NO.	ELEMENT AND MASS NUMBER A	CHEMICAL AND/OR PHYSICAL FORM B	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source) C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME D
(1)	Cs 137	Sealed source	Troxler Drawing #102112	No source to exceed 9 mCi
(2)	Am241:Be	Sealed source	Troxler Drawing #102451	No source to exceed 40 mCi
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL
E

(1) For used in Troxler 3400 series Moisture-Density gauge to measure
(2) properties of construction materials

06712

INFORMATION REQUIRED FOR ITEMS 5, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
 - a. Principles and practices of radiation protection.
 - b. Radioactivity measurement standardization and monitoring techniques and instruments.
 - c. Mathematics and calculations basic to the use and measurement of radioactivity.
 - d. Biological effects of radiation.
17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

18. CERTIFICATE

(This item must be completed by applicant)

Brackenrich & Associates, Incorporated
P.O. Box 207, U.S. 219 North
Lewisburg, West Virginia 24901

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

WARNING.—18 U.S.C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

a. LICENSE FEE REQUIRED
(See Section 170.31, 10 CFR 170)

\$110.00

(1) LICENSE FEE CATEGORY: 3.L

(2) LICENSE FEE ENCLOSED: \$110.00

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

J. D. Brackenrich

d. TITLE

President & Owner

e. DATE

RADATION PROTECTION OFFICER

J. D. Brackenrich will be the radiation protection officer. The radiation officer will coordinate the safe use of the nuclear gauging devices and ensure compliance with the requirements of Title 10CFR Parts 19, 20, 30 or applicable state regulations, and all applicable US DOT regulations. Typical duties of the radiation safety officer should include:

- (1) To assure that byproduct materials possessed under the license conform to the materials listed on the license.
- (2) To assure that use of the devices, particularly in the field, is only by individuals authorized by the license.
- (3) To assure that all users wear personnel monitoring quipment, such as film badges and etc.
- (4) To assure that gauges are properly secured against unauthorized removal at all times when they are not in use.
- (5) To serve as a point of contact and give assistance in case of emergency (gauge damage in the field, fire, theft, etc.) to assure that proper authorities, for example, NRC, local police, and State personnel, are notified promptly in case of accident or damage to gauges.
- (6) To assure that the terms and conditions of the license, such as periodic leak tests, are met and that the required records, such as personnel exposure records, leak test records, etc., are periodically reviewed for compliance with Nuclear Regulatory Commission regulations, requirements and license conditions.

RADIATION PROTECTION PROGRAM

A. Handling Procedures

- (1) No one not trained or qualified will be allowed to operate this instrument.
- (2) "SAFE" or stored position will be maintained when not in use.
- (3) Film Badges will be worn when transporting or using this instrument.
- (4) There will be no undue exposure to radiation source without sufficient reason or justification of same.
- (5) All unauthorized persons shall be kept at a distance of at least fifteen (15) feet or more. The general public will not be unnecessarily exposed to radiation.
- (6) Security of the instrument will be maintained at all times. The source lock will be in place when not in use and will be kept in a locked vehicle away from passenger compartment when being transported. The instrument will never be left unattended. When stored, building as well as instrument will be locked.
- (7) Anytime that a qualified operator feels any operating procedure is unsafe same shall be reported to the proper authority. The instrument shall never be left unattended, even for short intervals. Operator will never attempt repair of the device involving removal of the source holder.
- (8) Leak tests will be performed at intervals as required. Troxler 3400 Surface Moisture Density Gage will be used and is manufactured by Troxler Electronic Laboratories, Inc., Research Triangle Park, North Carolina.
- (9) Any operator having doubts about use of this instrument should contact Radiological Safety Officer.

B. Security

Locks shall be maintained on radiographic equipment to prevent accidental exposure of a sealed source when not under the direct supervision of approved personnel. Storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel.

C. Personnel Monitoring

No one shall be permitted to use this equipment unless at all time the user is in the possession of a film badge or other form of dosimetry.

D. Records and Reports

- (1) A quarterly physical inventory shall be conducted to account for all sealed sources received and possessed under our license and will be maintained for inspection.
- (2) All sealed sources shall be leak tested at intervals as required. When transferred, in the absence of a leak test certificate, the source shall not be put into use until tested.
- (3) All reports from film badge service will be maintained for inspection.
- (4) Whenever an employee terminates employment, a record of his total received dose must be made available to the employee.

E. Incidents

- (1) Loss or theft of licensed material will be reported by telephone or telegram to the appropriate agency, including the state agency. A written report will be filed within thirty (30) days after the loss, giving detailed description of the source, circumstances of the loss, disposition, possible radiation exposures or hazard, actions taken to recover the source, recurrence of the loss or theft.
- (2) Any overexposure of operators which exceed the limits given in 10CFR part 20, detailing circumstances of the exposure and possible injury.

F. Handling and Emergency Procedures

- (1) No personnel may use or transport the nuclear gauges unless approved by the radiological safety officer.
- (2) Each user must demonstrate their ability to correctly and safely use the nuclear gauge.

- (3) At the termination of each field use the gauge will be placed in its regular storage area.
- (4) In the event of physical damage to a gauge, a six (6) feet radius exclusion area should be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it will be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the instrument and source indicates damage to the source, including fracture of the weld, the appropriate authorities and manufacturer will be notified. The instrument may be removed from the site by using a shovel or other long handled instrument and placed in a suitable container, such as a metal drum. Provisions will be made to have the site surveyed for possible contamination after the instrument has been removed. Disposition by the factory, as covered later, can be arranged after a leak test has been performed to determine the integrity of the source before shipment back to the factory.
- (5) Notification by telephone to the proper authorities will be immediately after an accident (4above) or the loss of a sealed source, whether accidental or due to theft.
- A. J. D. Brackenrich, Company Safety Officer.
 - B. Nuclear Regulatory Commission.
 - C. W.V. Health Department.
 - D. Local authorities, such as fire dept; sheriff department, and state police.
 - E. Manufacture, Troxler Electronic Laboratories.

G. Transport by Private Motor Vehicle

The equipment, in its container, will be transported by motor vehicle under the "YELLOW II" label without placarding the vehicle as required by 49CFR 177.823.

The lock shall be in place and the container placed in a portion of the vehicle which can be locked. When not in transit the equipment will be stored in a secured area. It shall not be stored for more than eight (8) hours at less than one meter from undeveloped film.

H. Responsibility of Owner

It is our responsibility as a gauge owner to obtain copies of regulations which apply to our situation and comply with them.

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

PHILIP B. WADE

of

BRACKENRICH & ASSOCIATES

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.
TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT.


SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

Radiological Safety

- | | |
|--|---|
| 1. Principles and practices of radiation protection. | 5. Radioactivity measurement standardization and monitoring techniques and instruments. |
| 2. Leak testing procedures. | 6. Accident and incident procedures. |
| 3. Mathematics and calculations basic to the use and measurement of radioactivity. | 7. Procedures for nuclear gauge storage and transportation. |
| 4. Biological effects of radiation. | 8. General safety precautions. |

Gauge Operation

- | | |
|-------------------------|----------------------|
| 1. Instrument theory | 4. Field application |
| 2. Operating procedures | 5. Gauge calibration |
| 3. Maintenance | |


INSTRUCTOR

6/6-7/79

DATE

WILLIAM F. TROXLER

PRESIDENT

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

J.D. BRACKENRICH

of

BRACKENRICH & ASSOCIATES

HAS SUCCESSFULLY COMPLETED THE TROXLER ELECTRONIC LABORATORIES, INC.
TRAINING COURSE FOR THE USE OF NUCLEAR TESTING EQUIPMENT.

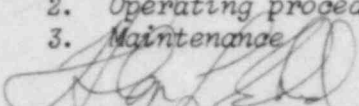
SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

Radiological Safety

- | | |
|--|---|
| 1. Principles and practices of radiation protection. | 5. Radioactivity measurement standardization and monitoring techniques and instruments. |
| 2. Leak testing procedures. | 6. Accident and incident procedures. |
| 3. Mathematics and calculations basic to the use and measurement of radioactivity. | 7. Procedures for nuclear gauge storage and transportation. |
| 4. Biological effects of radiation. | 8. General safety precautions. |

Gauge Operation

- | | |
|-------------------------|----------------------|
| 1. Instrument theory | 4. Field application |
| 2. Operating procedures | 5. Gauge calibration |
| 3. Maintenance | |


INSTRUCTOR

6/6-7/79

DATE

WILLIAM F. TROXLER
PRESIDENT

RESUME

PHILLIP B. WADE

Address: Route #6, Box 345
Lewisburg, W.V. 24901

Birth Date: May 25, 1951

Social Security # 232-80-9872

Education:

Attended Lewisburg High School, completed the 10th. grade.

Military:

Have not been in the service and am not affiliated with the National Guards or any other military organization.

Experience:

1968-1969 worked as rodman for Moore and Gardner in Richmond, Virginia, left employment to return to my home area.

1969-1970 worked for Kathy Farms, Incorporated, Frankford, West Virginia; taking care of show hourse, duties consisted of care and maintenance of horses and barns, etc.

1971-1977 Sims Exon, service station attendant, duties were minor mechanic maintenance, wash and grease jobs, and just general service station supervision.

1978 to present, Brackenrich & Associates, Incorporated, surveying and engineering firm, Party Chief on Survey Crew, Soils Check Tests, also in charge of vehicle maintenance.

Special Training:

Training course for the use of Nuclear Testing Equipment, successfully completed as taught and presented by Troxler Electronics Laboratores, Incorporated. Subjects included in the course are as follows: Rardiological Safety, (1) Principles and practices of radiation protection,

(continued)

(2) Leak testing procedures, (3) Mathematics and calculations basic to the use and measurement of radioactivity. (4) Biological effects of radiation, (5) Radioactivity measurement standardization and monitoring techniques and instruments, (6) Accident and incident procedures, (7) Procedures for nuclear gauge storage and transportation, (8) General safety precautions. Gauge Operation, (1) Instrument theory, (2) Operating procedures, (3) Maintenance, (4) Field application, (5) Gauge calibration.

Work Experience, (Special)

Assistant in the use of gauge in conjunction with certified operator on site for soils compaction tests, such as roadways, fill inside buildings, parking lots and etc.

RESUME

JOE LOUDERMILK

Address: Fairlea, W.V. 24902

Date of Birth: July 8, 1941

Education:

Graduated from Greenbrier High School,
Ronceverte, West Virginia.

Experience:

1959-1964 employed by Baldwin Supply, duties
were that of a parts salesman.

1964-1978, West Virginia Department of Highways,
District #9, Lewisburg, West Virginia. Duties consisted
of various types in early stage of employment, but were
mainly related to compaction testing in soils and asphalt.

During employment with the Department of Highways,
responsible for five (5) county district for eight (8)
years, vary to a maximum of 8 gauges being used by the
Department and several additional gauges used by contractors.
Instructor each winter on Nuclear Density Gauges, also
assisted Mr. Ralph Adams, Safety Officer for the state of
West Virginia in the teaching of three different schools
on Nuclear Equipment.

Employment during various times by Brackenrich
& Associates, Incorporated as supervisor of compaction
testing, using Nuclear Density Gauges which were operated
by several contractors.

Formal training on Nuclear Equipment was with
Campbell Pacific Training School as well as Troxler
Electronic Laboratores, Incorporated on 3401 gauge.

J. D. BRACKENRICH

Born:

January 23, 1936

Education:

1953	Rupert High School Rupert, W. Va.
1955	Glenville State College Glenville, West Virginia
1957	West Virginia University Morgantown, W. Va. B. S. in Agriculture Mechanics
1957-59	West Virginia State College Institute, W. Va. Classes toward Engineering
1960	West Virginia University Morgantown, W. Va. B. S. in Engineering

Registration:

Professional Engineer in W. Va. R.P.E. 3994
Registered Fallout Shelter Analyst with
United States Army

Organizations:

American Society of Civil Engineers
Soil Conservation Society of America
Association of Conservation Engineers of America
W. Va. Surface Mine and Reclamation Association
Tau Beta Pi - Engineering Honorary
Gamma Sigma Delta - Agricultural Honorary

Organizations: (cont)

Masonic - A.F. & A.M. 153, West Virginia
York Rite Bodies
Shrine - Beni Kedem
Eastern Star - Chapter 35
Member: Governor's Water Council for St. of W. Va.
Elks Club

Employment:

1954-1956	Helen Coal Company Crawley, W. Va. Deep mine operation, underground work with various duties.
1957-1959	Conservation Commission of W. Va. Charleston, W. Va. Engineering Assistant Involved design of dams.
1960-1962	Department of Natural Resources State of West Virginia Charleston, W. Va. Design of dams, check on coal reserves on state owned lands.
1962-1965	Department of Natural Resources State of West Virginia Charleston, W. Va. Chief Engineer Responsible for all engineering, land acquisition, leasing of state lands for mineral exploration.
1965-1967	Green Associates Charleston, W. Va. Chief Engineer In charge of design and planning
1967-1975	Dept. of Natural Resources Planning and Development Division Charleston, W. Va. Responsible for engineering, land acquisition, leasing, planning on state areas.

06712

Employment: (cont)

- 1969-1975 Environmental Services
Now Brackenrich & Associates, Inc.
Charleston, W.V.
Part-time basis
Chief Engineer
- 1970-1975 Kanco Incorporated
Board of Directors and Vice President
Nitro, W.V.
Construction
- 1975-Present Brackenrich & Associates, Inc.
Lewisburg, West Virginia
Owner and Principal Engineer
See Following.

Engineering experience during tenure of owner and Principal Engineer with Brackenrich & Associates, Inc. has been in the design and construction of earthen and concrete dams, road design and miscellaneous design projects including water and sewage systems.

All approval for various construction methods as required and related to areas of mining and construction are under direct supervision of principal engineer.

Special Training:

Training course for the use of Nuclear Testing Equipment, successfully completed as taught and presented by Troxler Electronics Laboratories, Incorporated. Subjects included in the course are as follows: Radiological Safety, (1) Principles and practices of radiation protection, (2) Leak Testing procedures, (3) Mathematics and calculations basic to the use and measurement of radioactivity, (4) Biological effects of radiation, (5) Radioactivity measurement standardization and monitoring techniques and instruments.

Special Training (cont)

(6) Accident and incident procedures, (7) Procedures for nuclear gauge storage and transportation, (8) General safety precautions. Gauge Operation, (1) Instrument theory, (2) Operating procedures, (3) Maintenance, (4) Field application and (5) Gauge calibration.

Special Work Experience:

Use of gauge in conjunction with certified operator on various soil compaction sites, which includes roadways, interior of buildings, parking lots, footer areas natural soil sites, trenches, etc., Troxler 3400 Series Gauge was used.

Publications:

Criteria for Design, Construction, Repair,
Inspection and Maintenance of Dams and
Associated Structures.

Drainage Handbook for Sediment Control.

46'

DOUBLE WALL
WOOD + GYPSUM

STORAGE

OCCASIONAL
WORK AREA

DOUBLE WOOD
LOCKED DOOR

GYPSUM CEILING
WITH DOUBLE FLOOR

CONCRETE
FLOOR

8" BLOCK
WALL

LOCKED
GARAGE
DOORS

LOCKED
ENTRANCE

LOCKED
GARAGE
DOOR

OFFICE WORK
AREA 110 FT.

STORAGE DENSITY METER

06712