Rec. 8/17/79 03120.

030-17199

FORM NRC-313 I (1-79)
10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

1. APPLICATION FOR: (Check and/or complete as appropriate)

L+L 19242

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

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.

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

Pacific Soils Engineering & Testing

TELEPHONE NUMBER - AREA CODE - NUMBER EXTENSION

671 646-6040 646-6371

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

David J. McConnell

TELEPHONE NUMBER - AREA CODE - NUMBER EXTENSION

671 646-6040

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

P. O. Box 8453
Tamuning, Guam 96911

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

a. Primary gauge storage at Pacific Soils Engineering & Testing, Harmon Industrial Park. b. Used at temporary job sites within Territory of Guam, Commonwealth of the Northern Marianas Islands, and Trust Territory of the Pacific Islands.

(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.	M. K. Rao	Principal Engineering Geologist
b.		
c.		

7. RADIATION PROTECTION OFFICER

M. K. Rao

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

LINE NO.	A ELEMENT AND MASS NUMBER	B CHEMICAL AND/OR PHYSICAL FORM	C NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	D MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	Cesium 137	Sealed Source	Troxler #A-102112	One*source 8 mCi (ea.)
(2)	Americium 241	Sealed Source	Troxler #A-102541	One*source 40 mCi (ea.)
(3)				
(4)				

	E DESCRIBE USE OF LICENSED MATERIAL
(1)	Sealed in one*Troxler Electronic Laboratories, Inc. model 3411 surface
(2)	gauge, which will be used to measure the moisture and density of engineering
(3)	materials.
(4)	

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License Fee Information on Reverse Side

02161

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9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Portable Moisture-Density Gauge	Troxler Electronic Lab.	3411
(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)	N.A.					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

N.A.

☐ b. CALIBRATED BY APPLICANT

Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

N.A.

12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
☒ (1) FILM BADGE ☐ (2) THERMOLUMINESCENCE DOSIMETER (TLD) ☐ (3) OTHER (Specify): _____	Radiation Detection Company 162 Wolfe Road Sunnyvale, California 94086	☒ MONTHLY ☐ QUARTERLY ☐ OTHER (Specify): _____

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

☐ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.

☒ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.

☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.

☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

Source will be returned to the manufacturer.

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.

INFORMATION REQUIRED FOR ITEMS 15, 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)

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	b. CERTIFYING OFFICIAL *(Signature)* David J. McConnell
	c. NAME *(Type or print)* David J. McConnell
(1) LICENSE FEE CATEGORY: 3-L	d. TITLE Principal Engineer
(2) LICENSE FEE ENCLOSED: $110.00	e. DATE November 15, 1979

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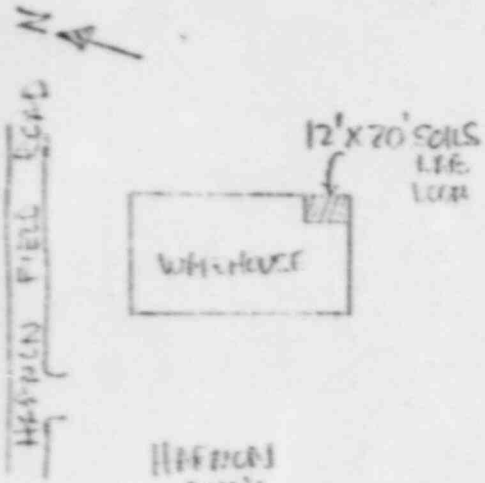
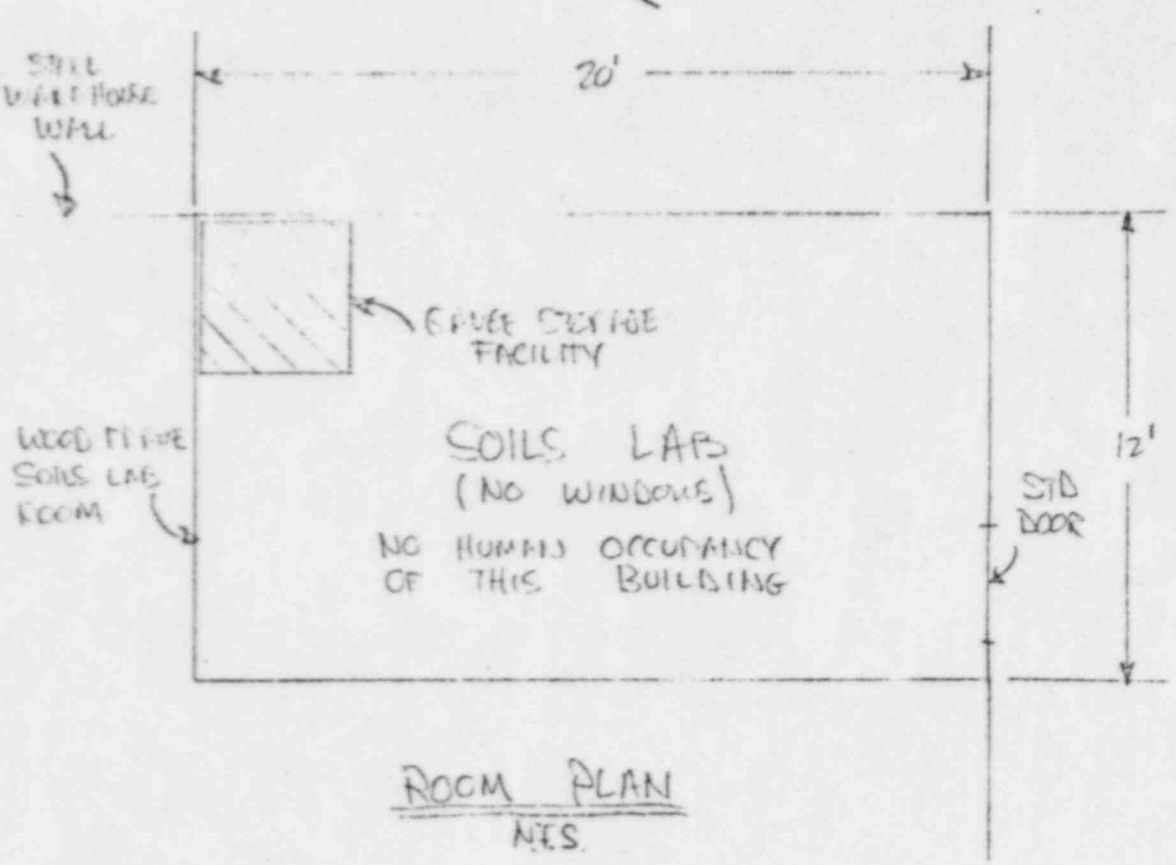
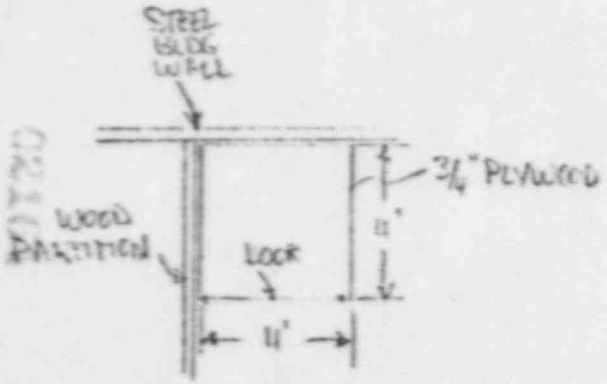
ITEM 13



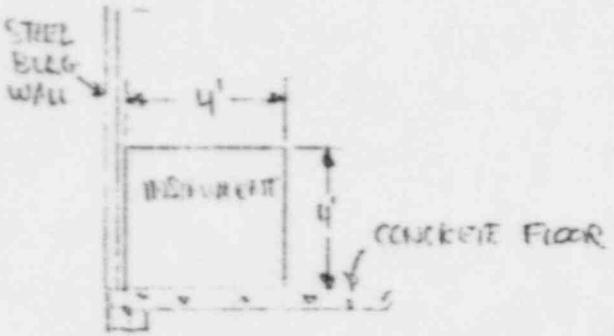
LOCATION PLAN
N.T.S.



ROOM PLAN
N.T.S.



PLAN
N.T.S.



ELEVATION
N.T.S.

PACIFIC SOILS ENGINEERING & TESTING

SKETCH OF GAUGE STORAGE FACILITY

ITEM 15

RADIATION SAFETY PROGRAM

PACIFIC SOILS ENGINEERING & TESTING
P. O. Box 8453
Tamuning, Guam 96911
Phone: 646-6040

A. SAFETY PROCEDURES

1. Do not operate or attempt to operate a gauge unless you have been authorized to do so.

2. Do not attempt to repair, modify or open the sealed source under any circumstances.

3. Wear a film badge at all times while operating or transporting a gauge.

4. Follow established operating procedures when using the gauge.

5. Keep unauthorized persons away from the gauge.

6. Keep the gauge in the "SAFE" or storage position when not in use.

7. Be sure that the gauge is locked within an authorized enclosure (e.g. closet, cabinet, vehicle, etc.) when it is not in use. Security against the thief of a radioisotope is of utmost importance and must not be neglected. The storage enclosure should be plainly labeled with a radiation warning sign of the approved type. Radiation levels at the outside surface of the storage enclosure must not be more than 2 mrem/hr.

8. Gauge(s) may be only transported by authorized personnel in approved vehicles. The gauge(s) may not be transported on the front or rear seats of any vehicle. If a pickup truck is used the gauge(s) must be locked in an enclosure (e.g. cabinet, shipping case, etc.) and the enclosure tied securely (e.g. chained, bolted, etc.) to the body of the truck in order to prevent loss or theft. Radiation levels at the driver and passenger seats and at the outside surface of the vehicle must not be more than 2 mrem/hr.

9. Ensure that the gauge is leak tested at proper intervals. The wipe sample will be collected by the Radiation Safety Officer using a Troxler model 3880 leak test kit. The leak test measurement on the wipe sample will be performed by Troxler Electronic Laboratories, Inc., P. O. Box 12057, Research Triangle Park, NC 27709.

10. When in doubt, ask.

ITEM 15

B. EMERGENCY PROCEDURES

1. Accidents

a. In the event of the possibility of damage to the source or source control mechanism, the operator will keep unauthorized persons at least ten feet from the gauge and prevent removal of the gauge from the site until authorization by the RSO or appropriate authority.

b. If there is any possibility that the source capsule might be ruptured then the source capsule location must be covered by a sheet of material (e.g. plastic, tarp, etc.) and held down by weights (e.g. rocks, bags of material , etc.) to prevent scattering of the radioactive material by the elements.

c. The operator must then immediately notify his Radiation Safety Officer of the incident and give an appraisal of the probable condition of the source.

d. The Radiation Safety Officer will then immediately notify the following authority who will provide instructions and assistance in accordance with the circumstances of the incident.

Region V, USNRC
Office of Inspection & Enforcement
1990 N. California Blvd.
Suite 202
Walnut Creek, CA 94596

24 hour telephone: (415) 932-8300

2. Source stolen or lost

a. The operator must immediately notify the local police or other law enforcement agency within whose jurisdiction the incident occurred.

b. The operator must also notify his Radiation Safety Officer who will in turn notify the authority listed in item B-1-d above.

TROXLER ELECTRONIC LABORATORIES, INC.

HEREBY CERTIFIES THAT

M. K. Rao

of

Pacific Soils Engineering & Testing

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.*
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*

Daniel R. Howe
INSTRUCTOR

December 5 & 6, 1979
DATE

William F. Troxler
PRESIDENT

ITEM 16

ITEM 17

Individual	Experience
M. K. Rao	Operated Troxler portable moisture density gauge in Guam while employed by Harding-Lawson & Associates 1973 to 1976.