

FORM NRC-313 I (3-80) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION							
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL		1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i>							
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.		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">X</td> <td style="width: 95%;"> a. NEW LICENSE </td> </tr> <tr> <td></td> <td> b. AMENDMENT TO: LICENSE NUMBER 02-19495-01 </td> </tr> <tr> <td></td> <td> c. RENEWAL OF: LICENSE NUMBER </td> </tr> </table>		X	a. NEW LICENSE		b. AMENDMENT TO: LICENSE NUMBER 02-19495-01		c. RENEWAL OF: LICENSE NUMBER
X	a. NEW LICENSE								
	b. AMENDMENT TO: LICENSE NUMBER 02-19495-01								
	c. RENEWAL OF: LICENSE NUMBER								
2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i> Indian Health Service Phoenix Area TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (602) 241-2056		3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Lloyd Spangler TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (602) 241-2056							
4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i> 3738 N. 16th St. (Suite A) Phoenix, AZ 85016		5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> See Attached Sheet Three Locations							
(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 <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>									
FULL NAME		TITLE							
a. Peter Johnson, P.E. <i>Spangler</i>		District Engineer							
b. Michael Verschelden, P.E. <i>Spangler</i>		District Engineer							
c. Gordon Wilcox, P.E. <i>Chapman</i>		District Engineer							
7. RADIATION PROTECTION OFFICER Lloyd Spangler <i>Spangler</i>		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.	ELEMENT AND MASS NUMBER A	CHEMICAL AND/OR PHYSICAL FORM B	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i> 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)	Cesium 137	Sealed Source	Troxler #3411B 8 mCi						
(2)	Americium 241	Sealed Source	Troxler #3411B 40 mCi						
(3)									
(4)									
DESCRIBE USE OF LICENSED MATERIAL E									
(1)	Sealed in Troxler Electronics Laboratories, Inc. Model 3411B surface gauges,								
(2)	which are used to measure soil moisture and density.								
(3)	8510230140 850822 REG LIC30 02-19495-01 PDR								
(4)									

9. STORAGE OF SEALED SOURCES

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

10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT	MANUFACTURER'S NAME	MODEL NUMBER	NUMBER AVAILABLE	RADIATION DETECTED (alpha, beta, gamma, neutron)	SENSITIVITY RANGE (milliroentgens/hour or counts/minute)
	A	B	C	D	E	F
(1)	NA					
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY NA	<input type="checkbox"/> b. CALIBRATED BY APPLICANT <i>Attach a separate sheet describing method, frequency and standards used for calibrating instruments.</i> NA
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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 <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input type="checkbox"/> (3) OTHER (Specify): _____ 	Radiation Detection Company 162 Wolfe Road Sunnyvale, CA 94086	<input type="checkbox"/> MONTHLY <input checked="" type="checkbox"/> QUARTERLY <input type="checkbox"/> 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. See sketches attached
- ☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.
- ☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

14. WASTE DISPOSAL

- a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED
Sources 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)

Exempt

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

Perry C. Brackett, P.E.

(1) LICENSE FEE CATEGORY: NA

d. TITLE

Chief, SFCB

(2) LICENSE FEE ENCLOSED: \$ Exempt

e. DATE

10-18-83

Item 5: Street address where licensed material will be used.

Primary storage locations. One gauge at each location; and
at temporary job sites in the United States.

- 14512
C-2 100
1. Indian Health Service storage yard (Location on existing
16th Street and Indian School Rd. license to continue)
Phoenix, Arizona 85016
 2. Indian Health Service shop and storage yard (Location on existing
Ft. Apache Indian Reservation license to continue)
Whiteriver, Arizona 85941
 3. Reno District Office warehouse (New additional location)
206B Cal Lane
Sparks, Nevada 89431

Phoenix Area Indian Health Service
3738 N. 16th St. Suite A
Phoenix, Arizona 85016-5981

Resumes required by items 16 and 17.

Operators

Michael Verschelden is a registered Professional Engineer who has been employed with the Indian Health Service since September of 1974. Mr. Verschelden has a Baccalaureate degree in Mechanical Engineering and a Masters degree of Public Health. Mr. Verschelden received training in the safety and use of the Troxler Electronics Laboratories, Inc. and has operated a Troxler Density Gauge in field use on numerous occasions.

Pete Johnson is a registered Professional Engineer who has been employed with the Indian Health Service since October of 1978. Mr. Johnson previously worked for five years with the Environmental Protection Agency in the Kansas City Regional Office. Mr. Johnson has a Baccalaureate and Masters degree in Civil Engineering. Mr. Johnson received a two day safety course in Phoenix on June 11 and 12, 1980, which was conducted by Troxler Electronics Laboratories, Inc.

Lloyd Spangler is a registered Professional Engineer who has been employed with the Indian Health Service since October 1977. Mr. Spangler has spent 17 years with the U.S. Army prior to joining the Indian Health Service. Ten of the 17 years were with the U.S. Army Corps of Engineers and 7 years with the Medical Corps. Mr. Spangler has a Baccalaureate in Geological Engineering and a Masters in Civil Engineering. Mr. Spangler received a two day safety course in Phoenix on June 11 and 12, 1980, which was conducted by Troxler Electronics Laboratories, Inc.

Gordon Wilcox is a registered Professional Engineer who has been employed by the Indian Health Service since 1973. Mr. Wilcox has a Baccalaureate and a Masters degree in Civil Engineering. Mr. Wilcox was certified to use nuclear gauges in March 1977. He and his staff attended a certification course conducted by Troxler Electronics Laboratories in October 1983.



DEPARTMENT OF HEALTH, ~~EDUCATION AND WELFARE~~ ^{AND HUMAN SERVICES}
HEALTH SERVICES ADMINISTRATION

TROXLER SURFACE MOISTURE DENSITY GAUGE

A. HANDLING PROCEDURES

The Troxler instruments were designed with operator safety as a prime consideration; however, as with any piece of potentially hazardous equipment, some general precautions should be observed.

1. Do not operate or attempt to operate the instrument unless you have been authorized to do so.
2. Keep the source position in the "SAFE" or stored position when not in use.
3. Wear a film badge or other dose measurement device when using or transporting the instrument.
4. While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient reason for justification of the additional dose.
5. Keep all unauthorized persons out of operating area. A suggested distance is 5 meters or 15 feet. The general public must not be unnecessarily exposed to radiation.
6. Maintain security of the instrument at all times. The source lock should be in place when not in use and the instrument should be kept in a locked vehicle when transported. When stored, the area should be locked. Not only is it an expensive piece of equipment, but if stolen, could be abandoned under conditions which could be hazardous to the general public.
7. Every user organization has standard operating procedures; the operator should follow these procedures and report any that he feels are unsafe.
8. Insure that the gauge has had leak test measurements at the proper intervals as required by your Radioactive Materials License.
9. If you have any doubts about use of the instrument, ASK. Your Radiological Safety Officer either has the answer, or can obtain one.
10. Do not attempt to repair, modify or open the sealed source under any circumstances.

B. SECURITY

Regulations require that locks be maintained on radiographic equipment to prevent accidental exposure of a sealed source when not under the direct supervision of approved personnel. In addition, storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel.

C. TRANSPORTATION BY MOTOR VEHICLE

This instrument, in its container, may be transported by motor vehicle under the "YELLOW II" label without placarding the vehicle as required by 49 CFR 177.823.

*Same as
prev. submitted*

The source rod lock should be in place and the container placed in a portion of the vehicle which can be locked. When not in transit, the instrument should be stored in a secured area.

Since the container has a Transport Index of 0.1 or greater, it may not be stored in less than 30 centimeters from passengers per 49 CFR 174.586. It also should not be stored for more than 8 hours at less than 1 meter from undeveloped film.

D. 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 and Enforcement
1990 N. California Blvd.
Suite 202
Walnut Creek, CA 94596
(415) ~~486-3141~~ - Daytime, nights and holidays.
943-3700

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 D-1-d above.

*Some are kept
for these
telephone
nos*

*3755 615 710-0003
3755 615 710-0003*

E. TROXLER WIPE TEST

1. General Precautions

- a. Keep exposure time to a minimum.
- b. Maintain distance between source and body.
- c. Use shielding where available.
- d. Never touch the source with bare hands.
- e. Never touch the filter paper after wiping.

2. Procedure

The wipe test procedure manual states that a whole body dosimeter should be used while performing the wipe test. However, for the purposes of the Troxler unit in the Phoenix Area, the following should be accomplished:

- a. Transport the Troxler unit to the nearest IHS installation which would have x-ray equipment available.
- b. Use film badge clipped to collar shirt.
- c. Utilize protective devices such as lead apron and gloves while performing the wipe test.
- d. Preparation: Before opening the instrument or exposing the sealed source in any way, obtain the materials (tongs, dowel, etc.) from the kit and wet the filter paper with a few drops of the solution. It is not necessary to saturate the complete disc, but visible wetness should exist over at least half of the paper.
- e. Exposing the Source and Wiping: Regulations require that either the actual source capsule be wiped (weld area) or the most accessible point of a containment system. Most licensees of radioactive material are not permitted to disassemble or service a source containment system. PLEASE NOTE - YOU ARE NOT PERMITTED TO DISASSEMBLE THE UNIT.

If a source holder is involved, then it may be exposed to allow wiping the most accessible point. Remember to keep the source as far as possible from the body.

Grasp the filter paper with the tongs and using the wood dowel, gently rub the wetted filter paper over the area selected to be wiped. Lay the filter paper on a clean paper towel with the unused side of the filter paper in contact with the towel.

None

Close the instrument or re-shield the source as applicable.

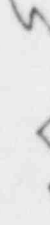
Where possible, leave the wet filter paper exposed to air for several hours in order to dry the solution. If a warm surface is available, the drying can be accomplished in five to ten minutes. Holding the paper over a hot light bulb is recommended.

The papers for the test are completed. Place the filter paper in the plastic bag, label it with the gummed label. Use the original of the statement to be sent to the company with the sample. Send the copy of the test to the Area Office of Environmental Health, along with the test kit.

ANYTHING ABOVE ZERO READOUT WILL BE REPORTED TO YOU IMMEDIATELY.

Done
16099

INDIAN HEALTH SERVICE
STORAGE YARD
276' x 83'

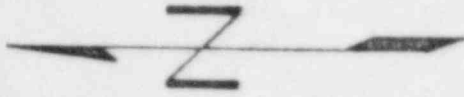


1000'

500'

16th ST.

INDIAN SCHOOL ROAD



SITE PLAN

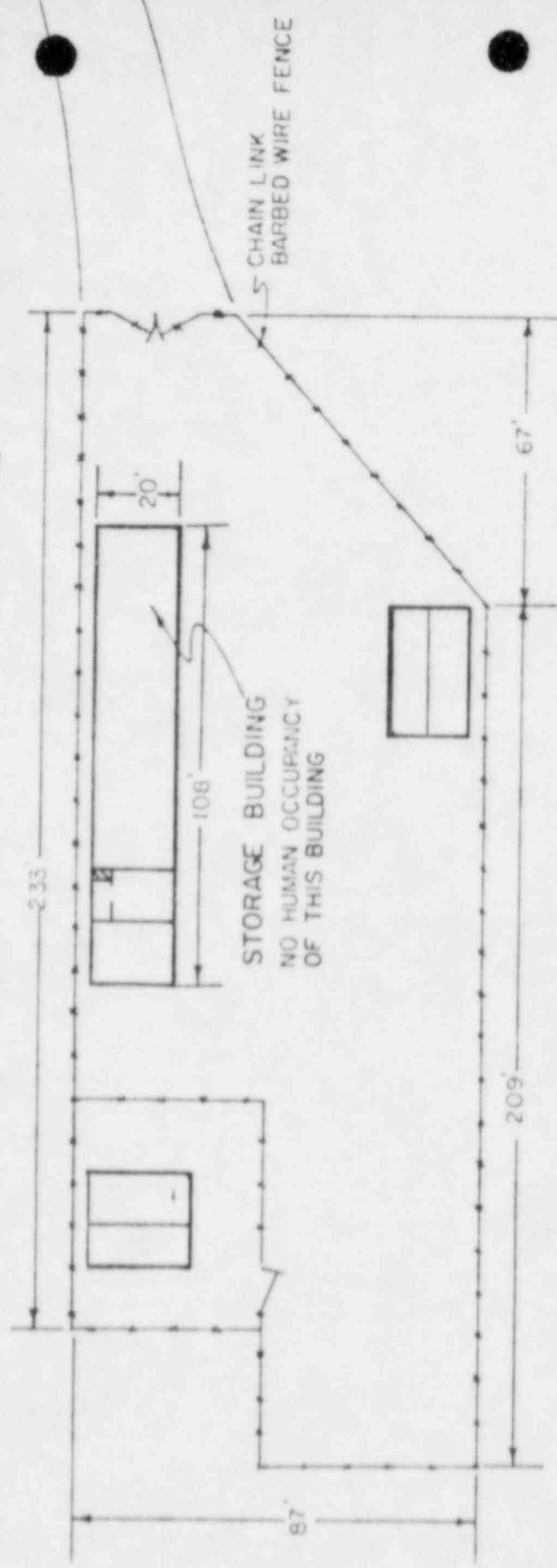
NOT TO SCALE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE

DENSITY TESTER
LOCATION-A
PHOENIX, AZ.

DRAWN BY RCT	DATE 5-30	SHEET NO. 1 OF 3 SHEETS
OFFICE OF ENVIRONMENTAL HEALTH		DRAWING NO.
PHOENIX AREA OFFICE PHOENIX, ARIZONA		

Revised

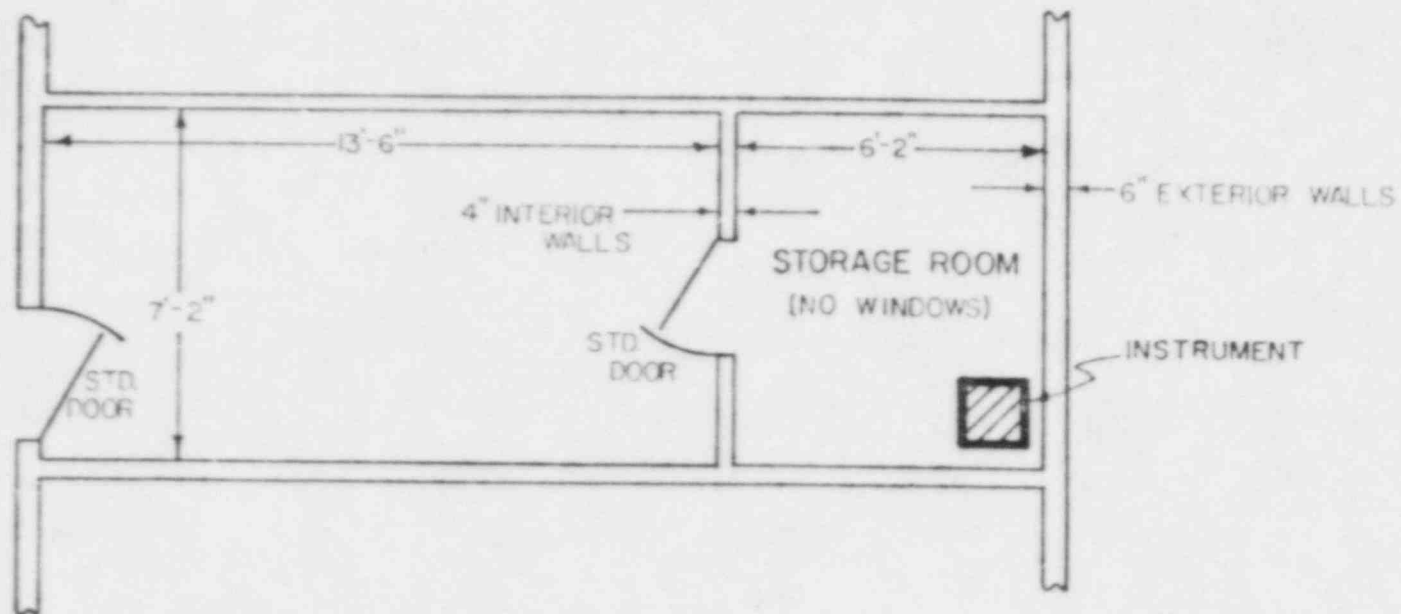
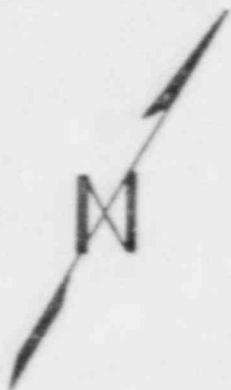


LOCATION PLAN

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE

DENSITY TESTER
PHX.LOCATION-A

DRAWN BY RCI DATE 5-02 SHEET NO 2 OF 3 SHEET
OFFICE OF ENVIRONMENTAL HEALTH
PHOENIX AREA OFFICE
PHOENIX, ARIZONA



BUILDING PLAN

1" = 4'-0"

Rand

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE

DENSITY TESTER
PHX LOCATION-A

DRAWN BY: RCT DATE: 5-02 SHEET NO. 3 OF 3 SHEETS

OFFICE OF ENVIRONMENTAL HEALTH
PHOENIX AREA OFFICE
PHOENIX, ARIZONA

DRAWING NO.

