

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, N.W., Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

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

X a. NEW LICENSE

b. AMENDMENT TO  
LICENSE NUMBER

c. RENEWAL OF  
LICENSE NUMBER

03120

L&L 21399

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

Wells Engineers, Inc.

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

402/330-0202

3. NAME AND TITLE OF PERSON TO BE CONTACTED  
REGARDING THIS APPLICATION

W. James Wells, Jr.

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION

402/330-0202

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

(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)

Wells Engineers, Inc., 11237 Chicago  
Circle, Omaha, Nebraska 68154

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED

(Include Zip Code)

Western Coal Project Field Office,  
840 Frontage Rd. East, Torrington, WY  
82240 (and temporary job sites throughout  
Nebraska along project route.)

(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. Dean A. Friesen

Radiation Safety Officer

b. James V. Cain, Jr.

Leak Test Designate

7. RADIATION PROTECTION OFFICER

Dean A. Friesen

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 MILLCURIES 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 #A-102112	Not to exceed 10mCi per source
(2)	AM241:Be	Sealed Source	Troxler Drawing #A-102451	Not to exceed 50mCi per source
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL  
E

(1) For use in Troxler Model 3400 Series Surface Moisture Density gauges to

(2) measure properties of construction materials.

(3)

## 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURE. B.	MODEL NUMBER C.
(1)	Surface Moisture Density gauges	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)	(Not applicable)					
(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 Attach a separate sheet describing method, frequency and standards used for calibrating instruments. N/A
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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): _____ _____	R. S. Landauer, Jr. & Co. Glenwood Science Park Glenwood, Illinois 60425 312/755-7000	<input checked="" type="checkbox"/> MONTHLY <input 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 checked="" type="checkbox"/> b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC. <input type="checkbox"/> c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC. <input type="checkbox"/> d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.	See attached sketches.
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## 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED (See attached Exhibit 1, Item 14)
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  Sources will be returned to the manufacturer or another authorized licensee when use is discontinued.

## 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.

NOTE: Items 15, 16, and 17 - Refer to attached keyed pages.

## 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)

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

W. James Wells, Jr., P.E.

(1) LICENSE FEE CATEGORY:

d. TITLE  
President

(2) LICENSE FEE ENCLOSED: \$

e. DATE  
June 7, 1983

ITEM 14. WASTE DISPOSAL

Waste disposal, if necessary, to be handled by manufacturer of instruments, Troxler Electronics Laboratories, Inc., 900 Clarkson Court, Denver, Colorado 80229.

#### ITEM 15. RADIATION PROTECTION PROGRAM

The Radiation Protection Officer will provide written instructions to the users to cover, but not be necessarily limited to, the following items:

- a. Transportation of instruments. Devices must be fully secured in a locked, secure compartment within the applicant's (Wells Engineers, Inc.) vehicles and as far as practical from the passenger compartment. Transportation activities must be carried out in accordance with the requirements of 10 CFR 71 and Department of Transportation regulations.
- b. Radiation Protection Officer will make available to all users of moisture density gauges copies of the necessary provisions of 10 CFR Part 19, "Notices, Instructions and Reports to Workers, Inspectors", and Part 20 "Standards for Protection Against Radiation" either through personal copies to each user or by posting such provisions on the construction field office bulletin boards for availability to such users.
- c. Devices will be stored in authorized, secured, locable container areas at the construction field office site (see Sketch 3-2), or in the user's vehicle storage unit (see Sketch 3-1).
  1. Only certified users will be assigned and have access to such devices.
  2. Users of the devices shall, at all time, never leave the gauges unattended.
  3. Devices, on the applicant's temporary job sites, shall be locked in a secure storage unit at all times. Only certified users shall have access to such devices.
  4. Devices stored at the construction field office site, (see Sketch 3-2) shall only be available to duly certified users upon approval by Radiation Protection Officer.
- d. In case of accidents involving loss or damage to the devices, either of the following two (2) individuals shall be notified immediately, and either of these two parties will in turn notify local police, State personnel and the NRC:
  1. Dean A. Friesen - Radiation Protection Officer
  2. James V. Cain, Jr. - Leak Test Designate
- e. Users shall not dismantle, repair or alter device in any way. All necessary maintenance and calibration performed on the devices shall be done by the manufacturer, unless otherwise stated.
- f. All Leak tests, at intervals not to exceed 6 months, will be accomplished by and under the supervision of James V. Cain, Jr., Leak Test designate.

ITEM 15. RADIATION PROTECTION PROGRAM

- g. Leak test kits shall be as supplied by manufacturer of device, Troxler Electronics Laboratories, Inc. P.O. Box 12057, Cornwallis Road, Research Triangle Park, N. C. 27709. Leak test kits are Troxler Model 3880, and leak test designate, Mr. James V. Cain, Jr., has been instructed in the leak test procedure by the manufacturers training officer, Mr. Don Lorentzson.



ITEM 16. FORMAL TRAINING IN RADIATION SAFETY

Attached please find resumes of the individuals named under ITEM 6 of this application.

These individuals attended a training and safety radiation course provided by Mr. Don Lorentzson, Troxler Electronics Laboratories, Inc., at the offices of Henningson, Durham, and Richardson, Inc. on Tuesday, May 24, 1983, in Omaha, Nebraska.

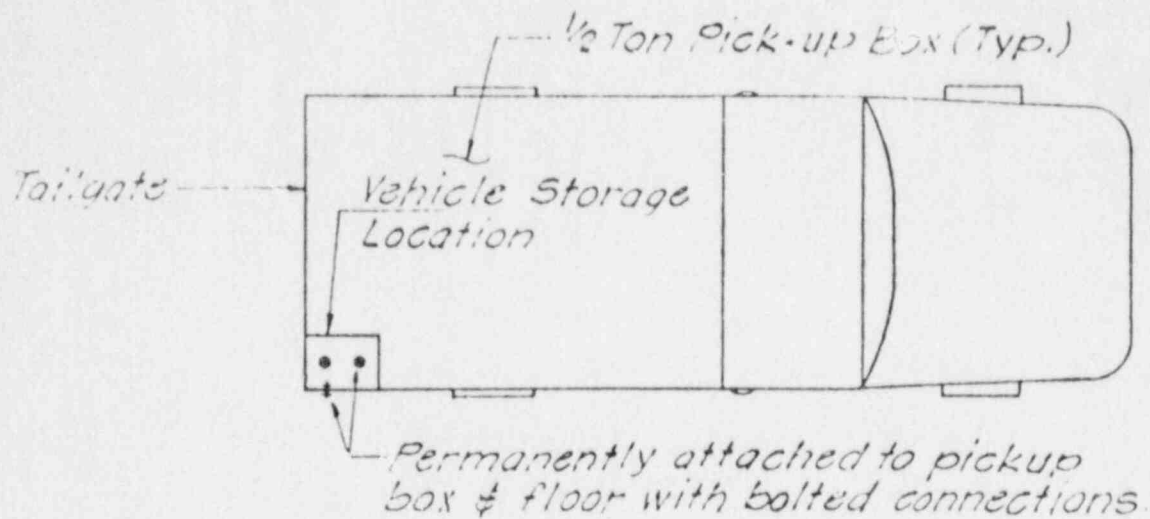
Mr. Friesen and Mr. Cain have completed an 8-hour training course given by manufacturers representative named above, and a copy of each user's certification will be sent in upon receipt from Troxler Electronics, in approximately 10 days.

ITEM 17. EXPERIENCE

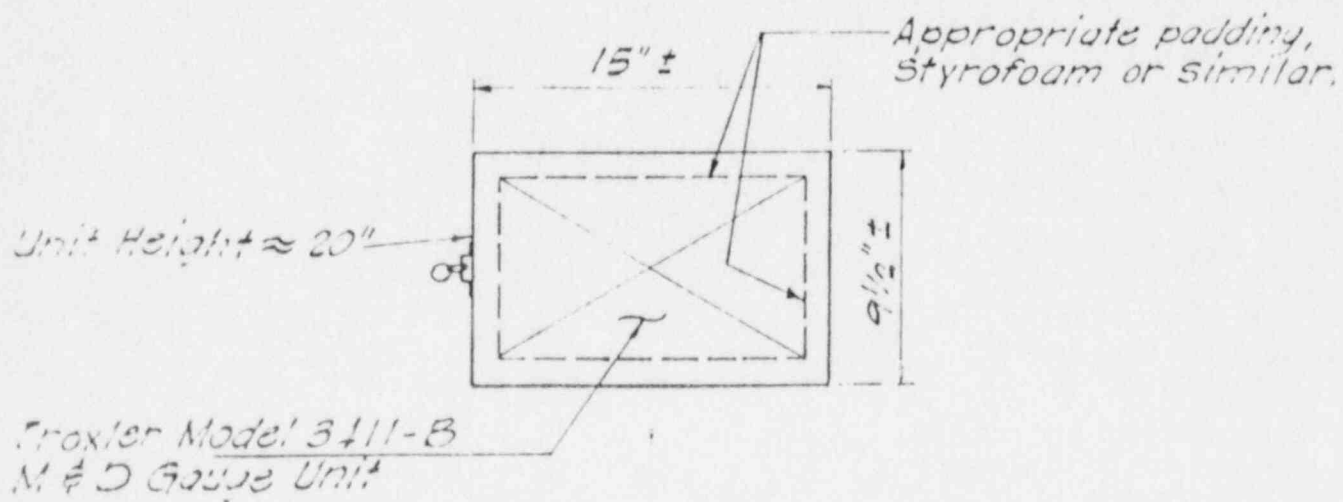
Attached please find resumes of all the listed users under the application.

1. Dean A. Friesen
2. James V. Cain, Jr.



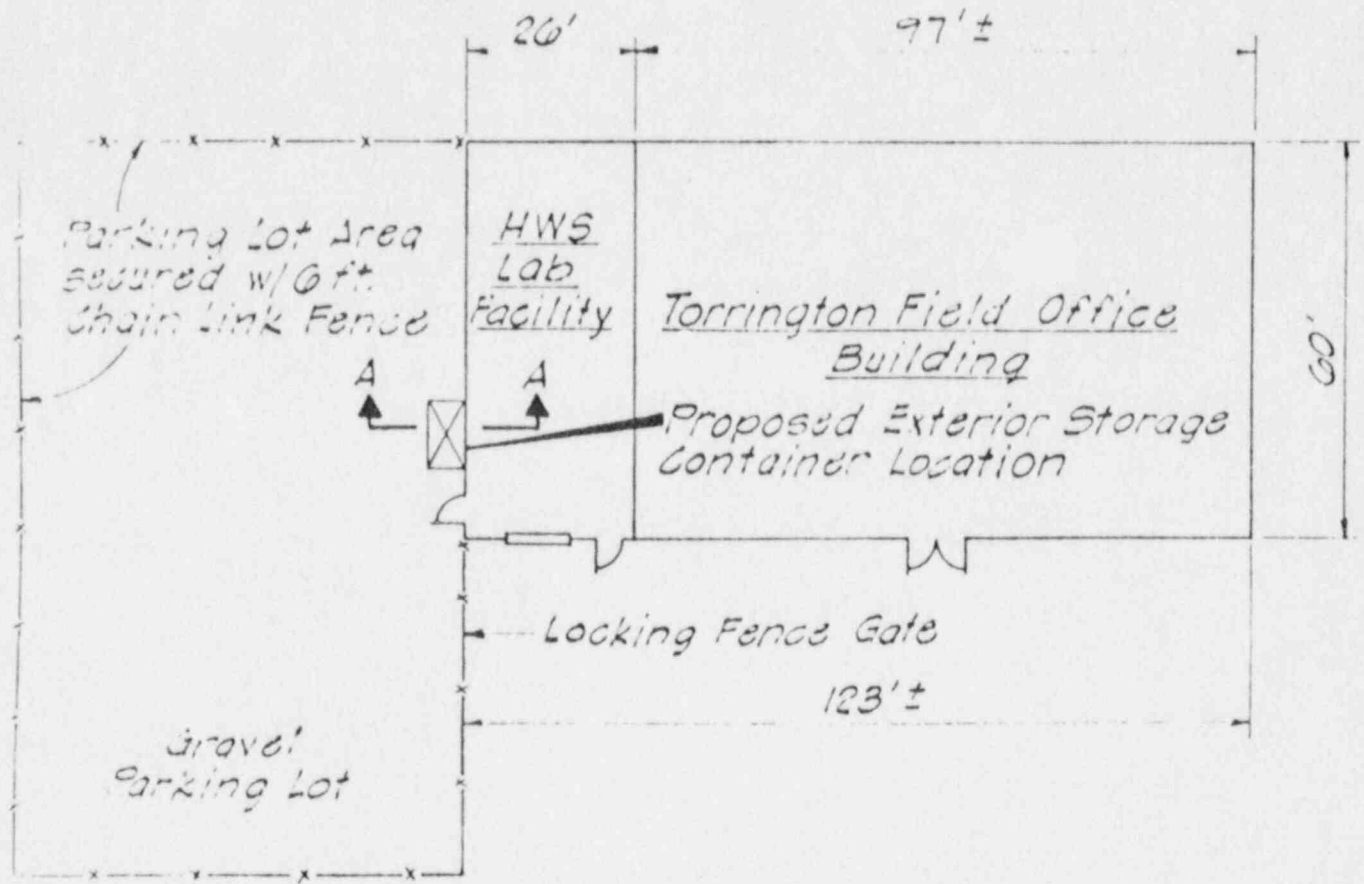


### VEHICLE STORAGE LOCATION (PICK-UP)



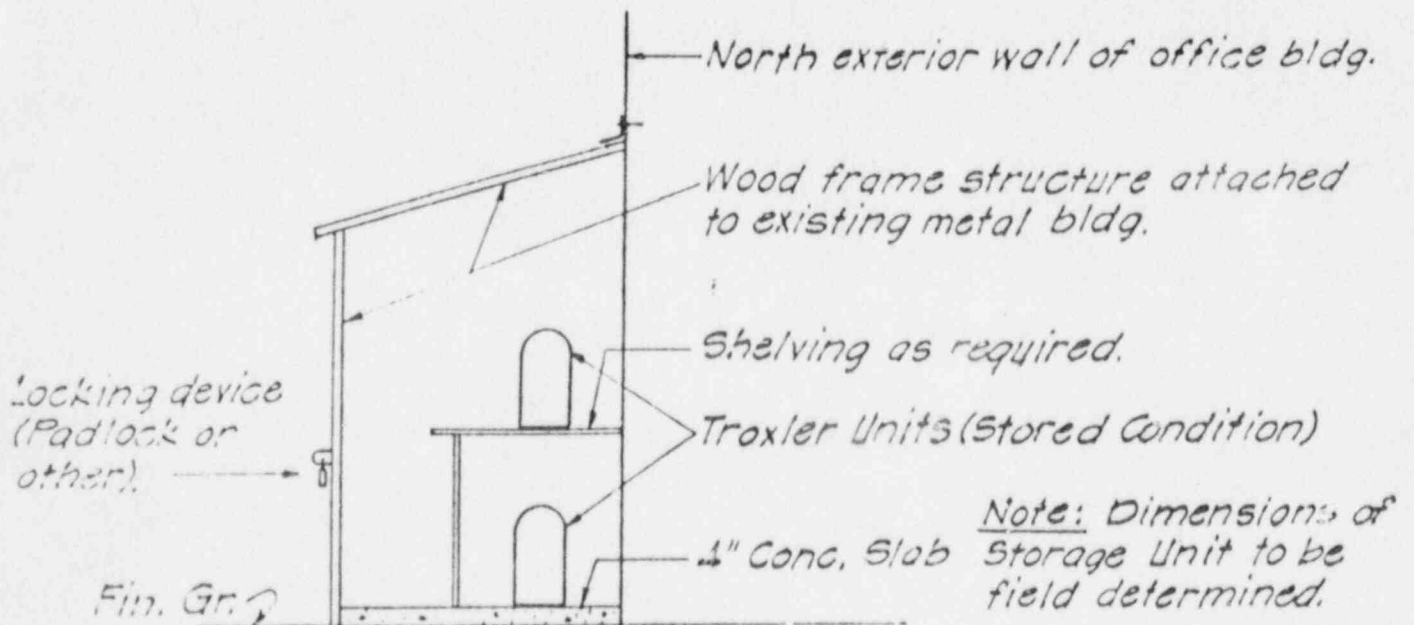
### VEHICLE STORAGE UNIT

# REMOTE STORAGE CONTAINER TORRINGTON FIELD OFFICE



## SITE PLAN

No Scale



## SECTION A-A

No Scale

DEAN A. FRIESEN

EDUCATION: Denver Institute of Technology, Denver, Colorado

Training and Safety Radiation Course provided by  
Troxler Electronics Laboratories, Inc.  
May, 1983

PRESENT POSITION:

Wells Engineers, Inc., Gering, Nebraska. Field Inspector. Responsibilities include supervision and inspection of wastewater, water system, building and paving projects. Has performed in-place soil density tests, concrete slump, air and compression tests and construction layout work in the process of field inspection.

PREVIOUS POSITIONS:

1979-1980: Vogel Land Surveyors, Gering, Nebraska. Chief detailer for surveying, civil, and environmental projects. Served as member of survey party for construction layout and control surveys.

1979: Skidmore, Cwings and Merrill, Denver, Colorado. Structural draftsman on \$40,000,000 Town Square, St. Paul, Minnesota and \$45,000,000 Phoenix Center, Phoenix, Arizona.

1978: Richard Weingardt Consultants, Denver, Colorado. Structural draftsman on apartment and office building complexes.

## PERSONAL RESUME

JAMES V. CAIN, JR.

Education: University of Nebraska, Lincoln, Nebraska  
Northwest Missouri State Teachers College (Navy V-12 program)  
Marysville, Missouri

Training and Safety Radiation Course provided by  
Troxler Electronic Laboratories, Inc.  
May, 1983

### PRESENT POSITION:

Field Inspector, Wells Engineers, Inc., Gering Nebraska. In responsible charge of construction supervision and inspection of wastewater systems, water systems, and paving projects. Mr. Cain is currently working as Resident Project Inspector for the new wastewater treatment facilities for the Town of Lusk, Wyoming. The project assignment has involved extensive surveying and construction staking, as well as full time inspection services.

### PREVIOUS POSITIONS:

Employed by the U. S. Department of Agriculture, Soil Conservation Service located at Scottsbluff, Nebraska (1962-1981); and Lincoln, Nebraska (1947-1962).

1962-1981: Watershed Project Office, Scottsbluff, Nebraska.

A. Party Chief - Obtained field information for detailed design of grade stabilizing structures, and detention dams. Responsible for preparation of detailed information from field data for design, i.e. drainage area maps, reservoir stage storage tables and rainfall runoff information.

B. Assisted in preliminary field design of earthen dams, drop spillways, chutes, waterways and floodways. Made hydraulic computations using prescribed formula, tables and charts to determine factors, velocities, capacities and discharge. Flood routed design storms according to established methods. Computed volumes of earth fill and excavation along with other contract items for preparation of engineering cost estimates for construction contracts.

C. Served as construction inspector for numerous government contracts. The major duties were: Construction staking or layout, inspection and testing of materials, workmanship, and procedures for installing works of improvement. Prepared pay estimates, as-built plans, reports, recommendations and observations in connection with construction contracts.

D. Assisted in preparing and maintaining schedules. Made recommendations and designs for land treatment structural measures. Trained personnel of lower grade.

E. During this time period, I have also been employed part-time by two engineering firms to do field survey dealing with property boundaries, site surveys for bridges, water projects, layout of recreational areas and roads.

James V. Cain, Jr.

Continued

1954 - 1962: Watershed Project Office, Lincoln, Nebraska

- A. Party Chief - Field survey for detail design
- B. Assisted in preliminary design.
- C. Served as construction inspector for numerous government contracts.
- D. Assisted in preparing and maintaining schedules.
- E. During this period of employment, I worked for several contractors on a part-time basis doing construction staking for Nike missile sites, city park landscaping, sewage lagoons, airport runway extensions, and roads.

1947 - 1954: Water Conservation Division, Lincoln, Nebraska

Party chief for field surveys including the Big Blue River watershed-stream profile and valley cross-sections. Assisted the Engineer with the plotting of field notes, hydraulic computations, water surface profiles. Field surveys for reservoir sedimentation to establish rates for new works of improvement, municipal water supply reservoirs included. Assisted with many reconnaissance type surveys including many of the Pilot watersheds in the region.

1943 - 1946: U. S. Navy, Machinist 3rd Class, engine room of a Destroyer; served in the Atlantic and Pacific theaters of war.