



PRECISION WELL PERFORATING CORPORATION

West 9th Street / Post Office Box 484 / Mount Carmel, Illinois 62863  
(618) 263-3312

OCTOBER 5, 1990

U.S. NUCLEAR REGULATORY COMMISSION  
REGION III  
799 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

RE: ACTIVITIES IN A NON-AGREEMENT STATE

DEAR SIRs,

ON 10/04/90 WE PERFORMED A WELL LOGGING OPERATION IN THE STATE OF INDIANA, UTILIZING A NEUTRON SOURCE. WE WERE UNABLE TO CONTACT YOUR OFFICE PRIOR TO PERFORMING THE JOB AS IT WAS CALLED IN AFTER YOUR NORMAL WORKING HOURS. AS AN OIL FIELD SERVICE COMPANY WE RARELY RECIEVE MORE THAN 12 HOURS NOTICE FOR ANY OPERATION, WHICH MAKES IT NEARLY IMPOSSIBLE TO GIVE YOUR OFFICE THE REQUIRED NOTICE. WE WILL GIVE NOTICE AS SOON AS POSSIBLE ON FUTURE JOBS IF THEY ARE CALLED IN DURING YOUR WORKING HOURS. THANK YOU FOR YOUR HELP IN THIS MATTER.

SINCERELY,

GREG BUCHANAN  
RADIATION SAFETY OFFICER  
PRECISION WELL PERFORATING CORP.

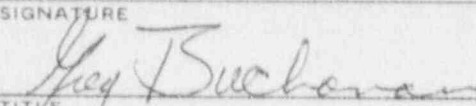
U.S. NUCLEAR REGULATORY COMMISSION

REPORT OF PROPOSED ACTIVITIES IN NON-AGREEMENT STATES

(Please read the instructions on the cover sheet before completing this form.)

| 1. NAME OF LICENSEE (Person or firm proposing to conduct the activities described below)  |                           | 2. ADDRESS OF LICENSEE (Mailing address or other location where licensee may be located) |         |             |
|---|---------------------------|--|---------|-------------|
| PRECISION WELL PERFORATING CORP.  |                           | P.O. BOX 484<br>1505 WEST 9TH STREET<br>MT. CARMEL, IL 62863                             |         |             |
| 3. NAME OF PERSON AUTHORIZED BY LICENSEE TO PERFORM ACTIVITY  |                           |  |         |             |
| GREG BUCHANAN   |                           |  |         |             |
| 4. DESCRIPTION OF ACTIVITIES TO BE CONDUCTED IN NON-AGREEMENT STATES UNDER THE GENERAL LICENSE GIVEN IN 10 CFR 150.20   |                           |  |         |             |
| OIL WELL LOGGING (NEUTRON LOG) TO DETERMINE ZONE POROSITY & LITHOLOGY.  |                           |  |         |             |
| 5. LOCATIONS AT WHICH THESE ACTIVITIES WILL BE CONDUCTED AND DATES SCHEDULED.   |                           |  |         |             |
| STREET AND NUMBER OR OTHER LOCATION<br>(Give as complete an address as possible)  | CITY AND STATE            | DATES SCHEDULED  |         | NO. OF DAYS |
|   |                           | FROM   | TO      |             |
| EDITH MARIE BURKETT WELL #A-12<br>SECTION 24<br>TOWNSHIP 1 SOUTH<br>RANGE 12 WEST<br><br>990' SOUTH LINE<br>330' EAST LINE<br>SOUTHWEST<br>NORTHWEST  | GIBSON COUNTY,<br>INDIANA | 10/4/90  | 10/4/90 | 1           |
| 6. LIST SEALED SOURCES, OR DEVICES CONTAINING SEALED SOURCES, WHICH WILL BE POSSESSED, USED, INSTALLED, SERVICED OR TESTED IN NON-AGREEMENT STATES. (Include description of type and quantity of radioactive material contained in each sealed source or device.)                         |                           |  |         |             |
| 3 CURIE AM-241 (AMBE) SEALED SOURCE (GULF NUCLEAR MODEL 71-1)<br>(SERIAL #71-1-657M)  |                           |  |         |             |
| 7. NUMBER OF SPECIFIC LICENSE AND NAME OF STATE ISSUING SUCH SPECIFIC LICENSE WHICH AUTHORIZES THE UNDERSIGNED TO CONDUCT ACTIVITIES WHICH ARE THE SAME, EXCEPT FOR LOCATION OF USE AS THOSE SPECIFIED IN ITEM 4 ABOVE. (Four copies of the specific license must accompany this report.) |                           |  |         |             |
| IL-01452-01/ILLINOIS  |                           |  |         |             |

CERTIFICATE

|   |  |
|---|--|
| B. I, THE UNDERSIGNED, HEREBY CERTIFY THAT:<br><br>a. All information in this report is true and complete.<br><br>b. I have read and understand the provisions of the general license 10 CFR 150.20 reprinted on the cover sheet of this form set; and I understand that I am required to comply with these provisions as to all byproduct, source, or special nuclear material which I possess and use in non-Agreement States under the general license for which this report is filed with the U.S. Nuclear Regulatory Commission.<br><br>c. I understand that activities, including storage, conducted in non-Agreements under general license 10 CFR 150.20 are limited to a total of 180 days in any calendar year. | DATE   |
|   | 10/05/90   |
|   | LICENSEE'S NAME (TYPE OR PRINT)  |
|   | GREG BUCHANAN FOR:<br>PRECISION WELL PERFORATING CORP.<br>CERTIFYING OFFICIAL        |
|   | SIGNATURE  |
|   |  |
|   | TITLE  |
|   | RADIATION SAFETY OFFICER   |

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.

OCT 9 1990

STATE OF ILLINOIS  
DEPARTMENT OF NUCLEAR SAFETY

**RADIOACTIVE MATERIAL LICENSE**

DIVISION OF NUCLEAR MATERIALS  
1035 OUTER PARK DRIVE  
SPRINGFIELD, ILLINOIS 62704

Pursuant to the Illinois Radiation Protection Act and the rules and regulations in 32 Illinois Administrative Code promulgated thereunder, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess and transfer radioactive material(s) listed herein; and to use such radioactive material(s) for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Illinois Department of Nuclear Safety now or hereafter in effect and to any conditions specified in the license.

|  |   |                                     |
|--|---|-------------------------------------|
| LICENSEE<br>Precision Well Perforating Corporation<br>P.O. Box 484<br>1505 West 9th Street<br>Mt. Carmel, Illinois 62863<br><br>Attention: Greg Buchanan<br>Radiation Safety Officer | LICENSE NUMBER<br>IL-01452-01   | EXPIRATION DATE<br>January 31, 1995 |
|  | AMENDMENT NUMBER<br><input checked="" type="checkbox"/> INITIAL LICENSE<br><br><input type="checkbox"/> Initial License<br>Amendment through Amendment constitute a complete license.<br><br><input type="checkbox"/> PREVIOUS AMENDMENTS ARE VOID. | REFERENCE NUMBER<br>9109761         |

In accordance with application dated August 14, 1989, License Number IL-01452-01 is issued as follows:

| ITEM | RADIONUCLIDE     | CHEMICAL and/or PHYSICAL FORM                         | MAXIMUM ACTIVITY*<br>PER SOURCE | MAXIMUM POSSESSION<br>LIMIT |
|------|------------------|---|---------------------------------|-----------------------------|
| A.   | Ir-192           | Any   |                                 | 100 mCi                     |
| B.   | I-131            | Any   |                                 | 25 mCi                      |
| C.   | Am-241<br>(AmBe) | Sealed Source - Gulf Nuclear,<br>Inc. Model AmBe 71-1 | 3 Ci                            | Any                         |

AUTHORIZED USE:

- A. and B. For use in tracer studies in oil wells, marking fracture zones, and determining perforation zones.
- C. For use in oil and gas well logging to determine zone porosity and lithology.

CONDITIONS

- Radioactive material shall be used at the licensee's facilities located at 1505 West 9th Street, Mt. Carmel, Illinois and at temporary jobsites of the licensee in the State of Illinois in accordance with statements, representations and procedures listed in License Condition 13.
- Radioactive material shall be used by, or under the supervision and in the physical presence of, Greg Buchanan, Gary McIntire, Steve McIntire or Lloyd Randolph.
- The Radiation Safety Officer for the activities authorized by this license is Greg Buchanan.

\* uCi-Microcurie; mCi-Millicurie; Ci-Curie

|   |                         |                                   |
|---|-------------------------|-----------------------------------|
| BY: <i>Joseph G. Klinger</i><br>Joseph G. Klinger, Head of Licensing Section<br>IL 473-0058 | DATE<br>January 3, 1990 | PAGE    OF    PAGES<br>1        3 |
|---|-------------------------|-----------------------------------|

STATE OF ILLINOIS  
DEPARTMENT OF NUCLEAR SAFETY  
**RADIOACTIVE MATERIAL LICENSE**

| LICENSEE<br>Precision Well Perforating Corp. | LICENSE NUMBER<br>IL-01452-01 | <input checked="" type="checkbox"/> INITIAL LICENSE<br><input type="checkbox"/> RENEWAL LICENSE | EXPIRATION DATE<br>January 31, 1995 |                             |
|--|-------------------------------|---|-------------------------------------|-----------------------------|
| ITEM   | RADIOISOTOPE                  | CHEMICAL and/or PHYSICAL FORM   | MAXIMUM ACTIVITY*<br>PER SOURCE     | MAXIMUM POSSESSION<br>LIMIT |

4. A. (1) Each sealed source shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to transfer, the sealed source shall not be put into use until tested.
- (2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or ten microcuries or less of alpha emitting material.
- B. The periodic leak test required by this condition does not apply to sealed sources that have been removed from use and are in protective and secure storage. The sources excepted from this test shall be tested for leakage prior to use or transfer to another person, unless they have been leak tested within six months prior to the date of use or transfer.
- C. Leak tests shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample, or in the case of radium sources, the presence of 0.005 microcurie of external radon-daughter contamination or the escape of radon at the rate of 0.001 microcurie per 24 hours. The test samples shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored upon which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Department. Records of leak test results shall be maintained for Department inspection for a period of five years from the date of analysis of the test sample.
- D. If the test reveals the presence of 0.005 microcurie or more of removable contamination, or in the case of radium sources, the presence of 0.005 microcurie of external radon-daughter contamination or the escape of radon at the rate of 0.001 microcurie or greater per 24 hours, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired, or to be disposed of in accordance with the 32 Ill. Adm. Code. A report shall be filed within five days of the test with the Department describing the source and equipment involved, the test results and the corrective action taken.
- E. The licensee is authorized to collect leak test samples for analysis by persons specifically authorized by the Department, an Agreement State, a Licensing State, or the U.S. Nuclear Regulatory Commission to perform such services.
5. Each source holder and logging tool containing radioactive material shall bear a legible and visible marking displaying the the conventional radiation symbol and the following wording: IF FOUND - DANGER - RADIOACTIVE - DO NOT HANDLE - NOTIFY CIVIL AUTHORITIES.
6. The licensee shall not permit injection of radioactive tracer material into potable aquifers without prior authorization from the Department.

\*  $\mu$ CI-Microcurie; mCI-Millicurie; CI-Curie

|  |                         |           |         |       |
|--|-------------------------|-----------|---------|-------|
| PAGE 1 SIGNED BY:<br>Joseph G. Klinger, Head of Licensing Section<br>IL 473-0059 | DATE<br>January 3, 1990 | PAGE<br>2 | OF<br>3 | PAGES |
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STATE OF ILLINOIS  
DEPARTMENT OF NUCLEAR SAFETY  
RADIOACTIVE MATERIAL LICENSE

| LICENSEE<br>Precision Well Perforating Corp. |              | LICENSE NUMBER<br>IL-01452-01 | AMENDMENT NUMBER<br><input checked="" type="checkbox"/> INITIAL LICENSE | EXPIRATION DATE<br>January 31, 1995 |
|--|--------------|-------------------------------|---|-------------------------------------|
| ITEM   | RADIONUCLIDE | CHEMICAL and/or PHYSICAL FORM | MAXIMUM ACTIVITY*<br>PER SOURCE   | MAXIMUM POSSESSION<br>LIMIT         |

7. The licensee shall maintain records showing the receipt, transfer, use, storage and disposal of all sources of radiation in accordance with 32 Ill. Adm. Code 310.40.
8. The licensee shall conduct a physical inventory at intervals not to exceed six months to account for all radioactive material sources received and possessed under the license and shall maintain a record of such inventories. The inventory record shall include the radionuclide, activity, manufacturer, model number, serial number, activity assay date, the location of the sealed sources, date of the inventory and the identity of the person(s) performing the inventory. Records of inventories shall be maintained for five years from the date of each inventory.
9. The licensee shall comply with the provisions of the regulations contained in 32 Illinois Administrative Code.
10. The licensee shall not transfer possession and/or control of materials or products containing radioactive material except:
  - A. By transfer as waste to an authorized recipient,
  - B. By transfer to a specifically licensed recipient, or
  - C. As provided otherwise by specific conditions of this license.
11. The transport of radioactive material or delivery of radioactive material to a carrier for transport shall be in accordance with the provisions of 32 Ill. Adm. Code 341.
12. The following shall be performed only by persons specifically authorized by the Department, an Agreement State, a Licensing State, or the U.S. Nuclear Regulatory Commission to provide such services:
  - A. The repair, opening, or modification of sealed sources.
  - B. The removal of source capsules from source holders
  - C. The repair and replacement of seals on source holders/pressure housings.
  - D. Any maintenance or non-routine servicing operations that may compromise the integrity of source holders or source capsules.
13. Except as specifically provided otherwise by the license, the licensee shall possess and use radioactive material described in all schedules of this license in accordance with statements, representations and procedures contained in, or enclosed with, the documents listed below. The regulations contained in 32 Illinois Administrative Code shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
  - A. Application dated August 14, 1989.
  - B. Letter, with attachments, dated December 22, 1989.
14. The licensee is exempt from the provisions of 32 Ill. Adm. Code 330.250(c) for a period of one year from the date of issuance of this license document.

\*  $\mu$ Ci-Microcurie; mCi-Millicurie; Ci-Curie

PAGE 1 SIGNED BY:

Joseph G. Klinger, Head of Licensing Section  
IL 473-0059

DATE

January 3, 1990

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