

# PROJECT GASBUGGY

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## Overview

This was the site of the first U.S. underground nuclear experiment for the stimulation of low productivity gas resources. On December 10, 1967 a 29 kiloton nuclear explosive was detonated at a depth of 4222 feet.

The GASBUGGY shot was part of the overall Operation PLOWSHARE (Atoms for Peace) program.

## What You'll See

A plaque marks ground zero.  
It reads as follows:

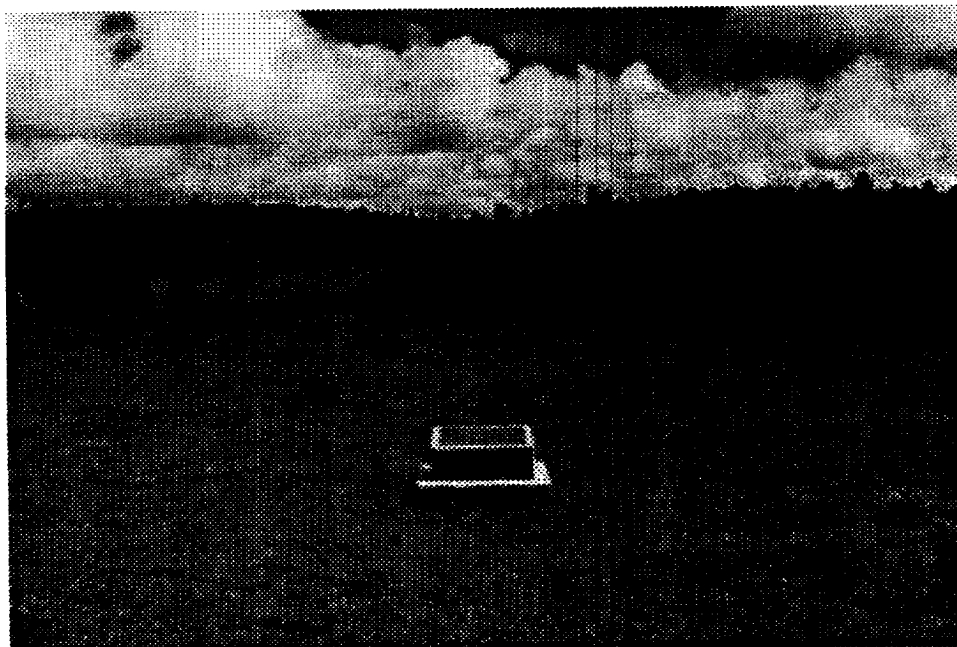
**PROJECT  
GASBUGGY  
NUCLEAR  
EXPLOSIVE**

USEPA, Env. Monit.  
Systems  
Units

Office of R12

702-798-2100

702-798-2336/  
Don James



**EMPLACEMENT/REENTRY WELL (GB-ER)**

**SITE OF THE FIRST UNITED STATES UNDERGROUND NUCLEAR EXPERIMENT FOR THE STIMULATION OF LOW-PRODUCTIVITY GAS RESERVOIRS. A 29 KILOTON NUCLEAR EXPLOSIVE WAS DETONATED AT A DEPTH OF 4227 FEET BELOW THIS SURFACE LOCATION ON DECEMBER 10, 1967.**

**NO EXCAVATION, DRILLING, AND/OR REMOVAL OF MATERIALS TO A TRUE VERTICAL DEPTH OF 1500 FEET IS PERMITTED WITHIN A RADIUS OF 100 FEET OF THIS SURFACE LOCATION. NOR ANY SIMILAR EXCAVATION, DRILLING, AND/OR REMOVAL OF SUBSURFACE MATERIALS BETWEEN THE TRUE VERTICAL DEPTH OF 1500 FEET TO 4500 FEET IS PERMITTED WITHIN A 600 FOOT RADIUS OF T 29 N. R 4 W. NEW MEXICO PRINCIPAL MERIDIAN, RIO ARriba COUNTY, NEW MEXICO WITHOUT U.S. GOVERNMENT PERMISSION.**

**UNITED STATES DEPARTMENT OF ENERGY  
NOVEMBER 1978.**

NEW MEXICO OIL CONSERVATION COMMISSION  
1000 Rio Brazos Road  
Aztec, New Mexico

BRADENHEAD TEST REPORT  
(Submit 3 copies to above address)

Date of Test 5-14-97 Operator Questron Energy Co. Well No. 4 Location U805 Sec. 10 Twp. 23N Rge. 9W  
Lease Name 700 D Pressure (Shut-in or Flowing) Dwt 60 Tubing 75 Casing 75 Bradenhead 0  
OPEN BRADENHEAD TO ATMOSPHERE FOR 15 MINUTES.

Casing or Tubing Pressure, Dwt.

5 Min. 65 I. 75  
10 Min. 65 I. 75  
15 Min. 65 I. 70  
20 Min. \_\_\_\_\_  
25 Min. \_\_\_\_\_  
30 Min. \_\_\_\_\_

If Bradenhead flowed water check description below:

Clear \_\_\_\_\_  
Fresh \_\_\_\_\_  
Salty \_\_\_\_\_  
Sulfur \_\_\_\_\_  
Black \_\_\_\_\_

Bradenhead Flowed:

Steady Flow \_\_\_\_\_  
Surges \_\_\_\_\_  
Down to Nothing ✓ \_\_\_\_\_  
Nothing \_\_\_\_\_  
Gas \_\_\_\_\_  
Gas & Water \_\_\_\_\_  
Water \_\_\_\_\_

Remarks: Approx 5# flow to 0 in

By Robert L. James  
Position Foreman

Witness \_\_\_\_\_

**A second plaque reads:**

**PARTICIPANTS  
U.S. ATOMIC ENERGY COMMISSION  
U.S. DEPT. OF THE INTERIOR (BUREAU OF MINES)  
EL PASO NATURAL GAS COMPANY**

**Public Tours Dates and Times**

**The plaque can be seen at anytime, no tours are offered.**

**How to Get There**

**From State Highway 64 go south on F.S. 357 for seven and a quarter miles. There will be a fork in the road, and go right, proceeding on F.S. 357. Make sure that you stay on this road, and enter the Carson National Forest. Go another six tenths of a mile to the plaque.**

**If you have access to a portable GPS system, the location is 36.678N, 107.208W.**

**Related Links**

- **[Center for Land Use Interpretation, Gasbuggy Test Site](#)**
- **[Carson National Forest](#)**

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**Driving directions courtesy of the Center for Land Use Interpretation. Photograph © 1997 The Bureau of Atomic Tourism.**

NEW MEXICO OIL CONSERVATION COMMISSION  
1000 Rio Brazos Road  
Aztec, New Mexico

BRADENHEAD TEST REPORT  
(Submit 3 copies to above address)

Date of Test 5-14-97 Operator Does the Energy Co.  
 Lease Name 760 2<sup>nd</sup> Well No. 5 Location U8005 Sec. 10 Twp. 23-N Rge. 9-W  
 Pressure (Shut-in or Flowing) Dwt 65 Tubing 65 Casing 55 Bradenhead 0 / vac.

OPEN BRADENHEAD TO ATMOSPHERE FOR 15 MINUTES.

Casing or Tubing Pressure, Dwt.

5 Min. 65 T 60

10 Min. 65 T 60

15 Min. 65 T 60

20 Min. \_\_\_\_\_

25 Min. \_\_\_\_\_

30 Min. \_\_\_\_\_

If Bradenhead flowed water check description below:

Clear \_\_\_\_\_

Fresh \_\_\_\_\_

Salty \_\_\_\_\_

Sulfur \_\_\_\_\_

Black \_\_\_\_\_

Remarks: \_\_\_\_\_  
 OIL CON. DIV.  
 DIST. 3

Water \_\_\_\_\_  
 Gas & Water \_\_\_\_\_  
 Gas \_\_\_\_\_  
 Nothing \_\_\_\_\_  
 Down to Nothing \_\_\_\_\_  
 Surges \_\_\_\_\_  
 Steady Flow \_\_\_\_\_

Bradenhead Flowed:

By Robert E. Jones  
 Position Assistant  
 Witness \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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## Gasbuggy Nuclear Test Site

The Gasbuggy Nuclear Test Site is the location of a 1967 underground nuclear explosion, conducted to test the viability of using a nuclear device to aid in natural gas extraction. It was part of the Plowshare Program, the program to develop peaceful uses of nuclear weapons, and was the first use of a nuclear explosion for industrial purposes.

The test was overseen by the San Francisco Operations Office of the Atomic Energy Commission, and was conducted by the Lawrence Radiation Lab (later to become the Lawrence Livermore National Lab) in conjunction with the El Paso Natural Gas Company. Called "gas stimulation", the technique has been used employing conventional explosives, and it was hoped that a larger nuclear explosion would be capable of opening up "tight" gas deposits which are not otherwise economically viable. The test called for a 29 kiloton nuclear device to be placed at the bottom of a 4,240 foot deep shaft drilled in a "tight" shale formation known to contain natural gas.

To a large degree the experiment went as planned: the underground cavity produced by the explosion, 80 feet wide and 335 feet high, filled with natural gas from the fractured surrounding rock. However the gas was too radioactive to be commercially distributed by the public utilities.

The site, in Carson National Forest, is open to public access. It consists of a clearing with a small monument, which has a plaque containing a brief description of the event.

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- [Go to the Land Use Database Page](#)



- [Go to the CLUI Home Page](#)

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Click [here](#) to leave your comments. This site is tended by Rex Ravenelle ([rex@zone.org](mailto:rex@zone.org)).

NEW MEXICO OIL CONSERVATION COMMISSION  
1000 Rio Brazos Road  
Albuquerque, New Mexico

BRADENHEAD TEST REPORT  
(Submit 3 copies to above address)

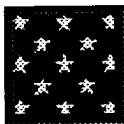
Date of Test 5-14-97 Operator Questar Energy Co.  
Lease Name 720 D Well No. 6 Location U 8005 Sec. 10 Twp. 23-N Rge. 9-W  
70 Casing 75 Tubing 75 Pressure (Shut-in or Flowing) Dwt  
OPEN BRADENHEAD TO ATMOSPHERE FOR 15 MINUTES.

Casing or Tubing Pressure, Dwt.  
5 Min. 75 T 70  
10 Min. 75 T 70  
15 Min. 75 T 70  
20 Min. \_\_\_\_\_  
25 Min. \_\_\_\_\_  
30 Min. \_\_\_\_\_  
Clear \_\_\_\_\_  
Fresh \_\_\_\_\_  
Salty \_\_\_\_\_  
Sulfur \_\_\_\_\_  
Black \_\_\_\_\_

If Bradenhead flowed water check description below:

Steady Flow \_\_\_\_\_  
Surges \_\_\_\_\_  
Down to Nothing \_\_\_\_\_  
Nothing \_\_\_\_\_  
Gas \_\_\_\_\_  
Gas & Water \_\_\_\_\_  
Water \_\_\_\_\_  
Remarks: \_\_\_\_\_  
By James E. James  
Position \_\_\_\_\_  
Witness \_\_\_\_\_

RECEIVED  
OIL CON. DIV.  
MAY 19 1997



## Project Gnome-Coach/Project Gasbuggy, New Mexico

The Project Gnome-Coach site and the Project Gasbuggy site are offsite testing locations previously used to conduct underground explosive nuclear tests and experiments from 1961 through 1973. The sites are currently inactive. Before any of the sites can be remediated, the Department will conduct an assessment to determine the extent of contamination. The assessment is scheduled to begin in 1994. Ground-water monitoring is conducted annually at both sites.



### About This Document

Posted 09/30/1994 (mw)

NEW MEXICO OIL CONSERVATION COMMISSION  
1000 Rio Brazos Road  
Albuquerque, New Mexico

BRADENHEAD TEST REPORT  
(Submit 3 copies to above address)

Date of Test 5-14-97 Operator Quincy Energy Co  
Lease Name 7-8 D Well No. 3 Location U 8005 Sec. 3 Twp. 23-N Rge. 9-W  
Pressure (Shut-in or Flowing) Dwt 145 Tubing 170 Casing 170 Bradenhead D  
OPEN BRADENHEAD TO ATMOSPHERE FOR 15 MINUTES.

Casing or Tubing Pressure, Dwt.

5 Min. 145 T. 170  
10 Min. 150 T. 170  
15 Min. 150 T. 170  
20 Min. \_\_\_\_\_  
25 Min. \_\_\_\_\_  
30 Min. \_\_\_\_\_

If Bradenhead flowed water check description below:

Clear \_\_\_\_\_  
Fresh \_\_\_\_\_  
Salty \_\_\_\_\_  
Sulfur \_\_\_\_\_  
Black \_\_\_\_\_

Steady Flow \_\_\_\_\_  
Surges \_\_\_\_\_  
Down to Nothing \_\_\_\_\_  
Nothing \_\_\_\_\_  
Gas \_\_\_\_\_  
Gas & Water \_\_\_\_\_  
Water \_\_\_\_\_  
RECEIVED JUN 19 1997  
OIL CON. DIV. DIST. 3

Bradenhead Flowed:

By Robert F. Jones  
Position Foreman  
Witness \_\_\_\_\_