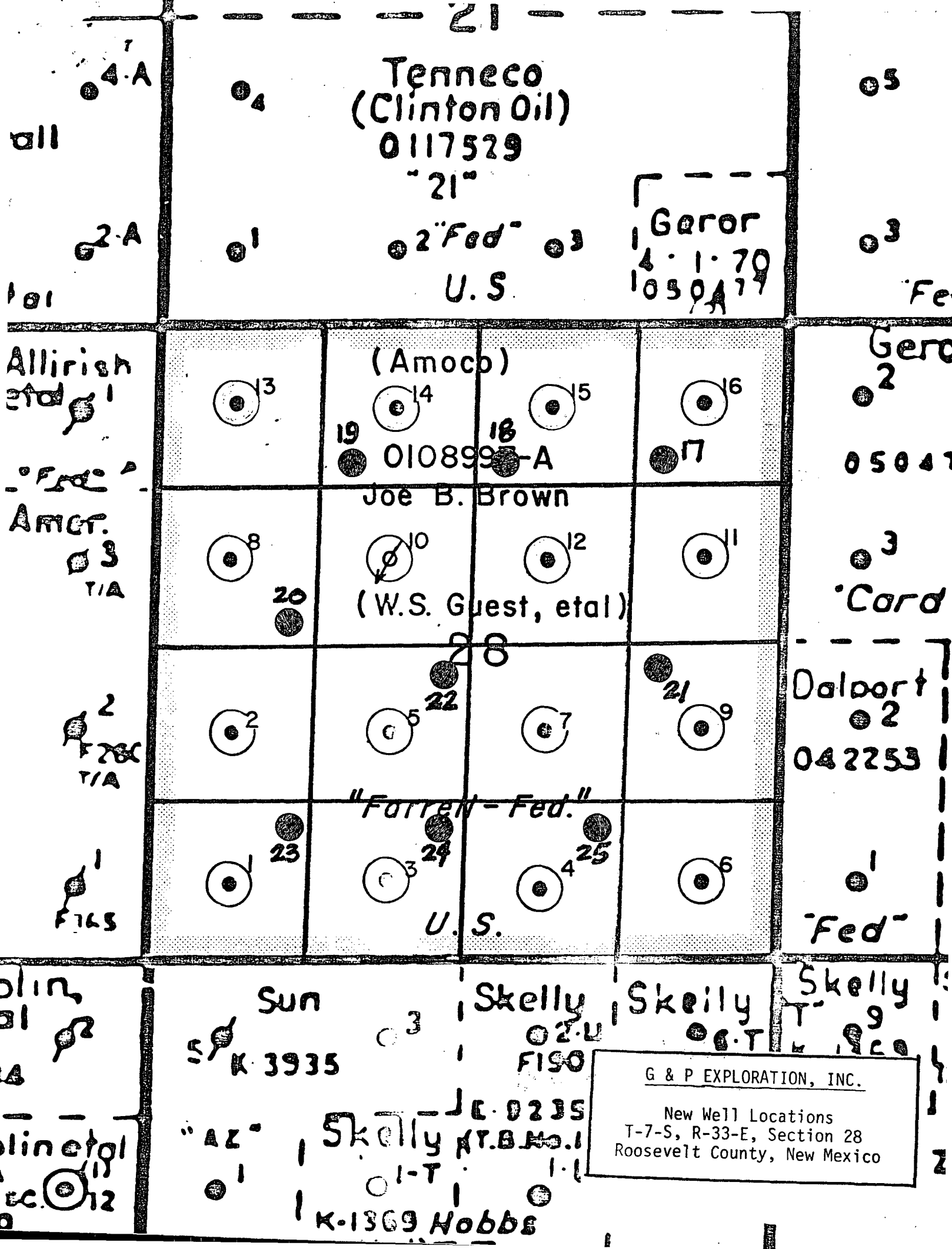
21
Tenneco
(Clinton Oil)
011752 9
"21"
U.S
Geror
4-1-79
(Amoco)
010899-A
Joe B. Brown
(W.S. Guest, etal)
28
"Farrell-Fed."
U.S.
Allirish etal
"Fed"
Amer.
T/A
Dalport
042253
"Fed"
Sun
K-3935
Skelly
Skelly
Skelly
F150
E-0235
"A2"
Skelly
1-T
K-1369 Hobbs
G & P EXPLORATION, INC.
New Well Locations
T-7-S, R-33-E, Section 28
Roosevelt County, New Mexico

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
BRuen EXHIBIT NO. 2
CASE NO. 7975
Submitted by
Hearing Date

INFILL DRILLING JUSTIFICATION

Section 28, Township 7 South, Range 33 East
Chaveroo Field
Roosevelt County, New Mexico

Initial evaluations on several fields that are currently producing and have produced from the San Andres formations were begun approximately two years ago, in 1981. The primary basis for these evaluations and concentration upon the Chaveroo Field area was a report prepared for the U.S. Department of Energy by Gruy Federal, Inc., Houston, Texas, Report No. DOE/MC/08341-31. Excerpts from Volume 1, Part 1, and Volume 1, Part 2, regarding the Chaveroo Field area are attached. This report reflects significant reserves which have not been recovered from the initial drilling in the field, which was discovered in the 1960's.

After careful evaluation of the logs and the limited follow-up data available, it appears that neither the perforating nor the original fracture stimulation were effective in stimulating and producing oil from the San Andres reservoir on a 40 acre drainage pattern. This is the current situation in Section 28 where the application is being made for infill drilling. The Farrell Federal No. 2 Well had a SpectraLog run in 1981 and, based on an interpretation from Dresser, it appears that the better porosity, as determined by the Neutron Log, has not contributed to the production from the well. Further, the SpectraLog indicates additional fractures in the zone above the perforated interval, in what is commonly called the P-2 interval. Also, in 1982, there were limited workover operations on the Farrell Federal No. 8 and No. 9 Wells, and in both wells the lower zone, referred to as P-4, required over 1,800 pounds to pump into the wellbore. The No. 9 Well had the lower interval squeezed off and the No. 8 well received a light acid stimulation, which initiated some gas and oil production from a previously dead well. The Farrell Federal No. 7 Well had a flow survey (ScanaLog) run in 1966, which indicated that the bottom 75% of the perforated interval was not contributing to the production of the well that was then making in excess of 50 barrels per day. Careful evaluation demonstrates that the lower zones were not adequately stimulated. No follow-up temperature or radioactive surveys, other than those mentioned, were been performed on the existing wells to determine what was contributing to the production.

Based on current evaluations of the initial fracturing procedures, it is highly unlikely that the existing wells have drained more than 10 to 15 acres. Using the initial fracture treatment data, Halliburton was requested to determine the fracture length from such a treatment. Original fracturing generally used an injection rate of 25-30 barrels per minute (Halliburton used 35 BPM) and approximately 30,000 pounds of proppant with crude oil. Based on a gross fracture height of approximately 175 feet, the maximum effective drainage area is approximately 16-1/2 acres. A copy of the Halliburton calculation is attached. Assuming a 100% effective fracture, the average well would drain only 16-1/2 acres.

Generally, the effectiveness of a fracture length is reduced, which indicates actual drainage to date of 10 to 15 acres.

The wells were initially completed with 9-1/2 pound J-55 pipe. Section 28 has had several operators over the last five years and there has been little or no corrosion control. An evaluation of possible workovers indicated extreme risk in fracturing the old wells. It is impossible to reasonably determine the condition of the casing in the existing wells. We believe that additional development and stimulation of this reservoir area is essential to recovery of the available hydrocarbons.

Permits are requested to drill nine new internal wells. This is to provide infill wells that, with new fracturing techniques, can effectively drain 20 acres, more or less. This infill pattern will also provide a reasonable pattern for waterflood operation in the San Andres reservoir at at later date. There are adequate San Andres floods underway, which indicates that flooding of the San Andres can be profitable and provide economical recovery of hydrocarbons.

The 20 acre drilling spacing, which the nine new wells will provide, should prove to be optimum for the Chaveroo Field area in Section 28. Because of the current condition of the existing wellbores, additional stimulation at proper rates and with additional proppants could not be recommended. Depending on the data developed from coring, temperature and radioactivity logs resulting from the new drilling, some additional clean-up and limited stimulative work through tubing may be possible in the future.

Based on in-depth evaluations, it has been determined that these nine wells are essential to recover the oil in place which cannot be reasonably recovered from the existing wellbores.

September 12, 1983