BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
Penroc EXHIBIT NO. 3
CASE NO. 8759

APPLICATION FOR CLASSIFICATION AS HARDSHIP GAS WELL

WELL: Penroc Oil Corporation Madera Comm. No. 1

1. Prolonged shut-in periods for the Madera Comm. No. 1 well have caused considerable down time from a mechanical standpoint and has led to damage of the producing horizon. The water sensitive Morrow Sands have shown an increased inability to respond to production after periods of shut-in. Also available reservoir energy may have been permaturely dissipated to a degree that the ability of the well to unload produced water is impaired even with the aid of a compressor. These factors point out that underground waste will occur if the well continues to be shut-in or is curtailed below its ability to produce.

2.
(a) The Madera Comm. No. 1 well is located 1980' from the West and 660' from the North lines of Section 11, T24S, R34E, Lea County, New Mexico. It is in the Antelope Ridge Morrow Gas Pool. Completion date was 3-15-74 in the Morrow Sands section through a series of perforations 13,524-13,744 feet. Total depth is 14,100'. PBTD is 14,060'. Initial potential was CAOF 1,440 MCFGPD plus 51.77 barrels condensate per day. Shut-in tubing pressure 4259#. Gas connection to El Paso sales line was 6-14-74.

Note: Well was deviated because of lost fish in the hole. TD 13,580' Set cement to 13,132' Drilled cement to 13,168' Set Dynadrill at 13,168' 12-8-73. TD 14,100' reached 1-10-74.

The Madera Comm. No. 1 well has always been a high-pressure, low volume well. It is evidenced that production had slowly decreased from an average 8,000 MCF per month production in 1975 to an average of approximately 5,250 MCF per month during 1980. This is almost 6.5 years. Then in late 1980 the well would not produce into the sales line. A compressor was installed and the well produced without incident until those periods of low gas market demand and the well commenced to be shut-in. During the months of June, July, August and September, 1982 the well was shut-in 8, 23, 26 and 13 days respectively. Production was resumed each time simply by opening the well. However, the real problems began to develop in 1983. The well was shut-in 10 days in May but had to be swabbed to return to the sales line. On June 4, 1983 found fluid at 3000 feet. Make 7 runs with swab. Well kicked off.

In September, 1983, well went down because of mechanical malfunction of choke valve. After repair would not flow. Swabbed over a period of three days before could get well to flow.

The year 1984 was a bad one. The well died. Swabbed and determined had communication in casing annulus. Pulled tubing. Had hole in the tubing at 10,574 feet. Found scale in lower tubing. Treated well with 1000 gals Gypsol and acidized perforations with 1000 gallons 15% NE acid. This during the month of May. Well would not flow. Alternately shut-in for pressure buildup and open to flow. No success. Swabbed well two days in June. Would not retain sustained flow. Swabbed again on June 25th for one day. Well would make only 35-50 MCFGPD throughout most of July. Eventually unloaded enough water to slowly increase production to an average of 216 MCFGPD in December 1984. For the first time the well suffered a loss in income in the year 1984.

It can be noted that well performance has not been good in 1985 due to a variety of factors. January evidenced only 14 producing days because of sales line freeze-ups attributable to extremely cold temperatures. Average daily production 126 MCFGPD. The Madera produced an average of 205 MCFGPD during February but was shut-in by the purchaser for four days being the 15th through the 18th. Production was recorded for the first 25 days of March being a average of 265 MCFGPD. Well shut-in by purchaser on the 25th through the 25 of April. Were allowed to open the well one day on the 26th but told to shut-in again. Shut-in until May 17th. Allowed to produced through the 24th and shut-in again. Averaged 135 MCFGPD. Opened on the 26th. Produced through the 21st of June. Averaged 164 MCFGPD. El Paso shut-in for annual shut-in tubing pressure test. Could not get well to flow after this. Alternately shut-in for pressure buildup and open but with negative results. Swabbed well three days on the 5th, 6th, and 7th of July. Again went through alternate shut-in and open procedures with no sustained flow. Swabbed two days on August 21 and 22. Determine have leaking seal assembly. Pull tubing, repair seal assembly and go back in hole. Swabbed the 28th and 29th. After shut-in could not get well to flow. Periodically shut-in and open to attempt production. Was not successfull. Have pressure buildup to 2800 lbs. Move in unit for one last attempt to get the well to produce and swabbed on the 25th and 26th of September. Close well in two days. After open have small flow gas. Keep well producing through October slowly increasing to 110 MCFGPD but average 91 MCFGPD for the month. During November averaged 122 MCFGPD but had increased to approximately 160 MCFGPD. Producing an average of 4.64 barrels water per day.

The well experienced a loss in 1985.

(b) The wellbore sketch shows the complete mechanical condition of the Madera Comm. No. 1. It was previously mentioned that this is a sidetracked hole. A permanent packer is located at 13,405; and the tubing has a 15' seal assembly through the packer. This is to allow free travel to compensate for expansion and contraction of the tubing. No other mechanical means have been considered for the reason that the cost of 13,400 feet of smaller diameter

tubing is prohibitive considering limited volume of gas produced from a well that has not paid out in 11½ years and that amount of small diameter tubing is risky to run in a deviated hole. And from what can be observed now, there is no assurance that the well can be revived once it goes down.

3.
(a) If the problems encountered and periods of shut-in could have been minimized during the past 2½ years, the well would in all probability be capable of producing 225 MCFGPD. Since the well has been producing without interruption, it averaged 91 MCFGPD in October and 122 MCFGPD in November. It is hopefull production will recover to more than that evidenced in October and November.

As pointed out earlier, a 1000 gallon treatment of Gypsol to clean scale was performed across the perforations on 5-15-84 and a 1000 gallon NE 15% acid treatment was performed on 5-17-84. No real improvement was noted.

(b) It appears swabbing would be required any time the well is shut-in in the future.

(c) Last swab period was 9-25-85 and 9-26-85. On first day swabbed 7 runs with fluid level at 4800 feet. On second day swabbed 3 times with fluid level 9500 feet. On 8-28-85 and 8-29-85 make total of 12 runs with swab with level commencing at 2400 feet from surface. Cost of swabbing was $1171 in September and $1795 in late August. Normal monthy operation cost is approximately $3000.

4. Failure to obtain a hardship gas well classification will result in permature abandonment of this well and a loss of reserves estimated to be at least 1,005,142 MCF of gas.

5.
(a) Minimum rate that is practical to sustain the compressor, keep produced water moving, and to allow a reasonable profit is estimated at 200 MCFGPD.

(b) Reference is made to decline curve and Production History sheet.

It has been found when the well could produce in excess of 220 MCFGPD, 8-9 barrels of water per day was produced. During November of 1985 when an average daily gas production rate was 122 MCF, 4.64 barrels water per day was produced.

6. Plat attached.

Only two Morrow wells nearby.

The Texas West Oil and Gas well 1/2 mile north produced 24 MCF in August 1985. Produced only 615 MCF in all of 1984. Cumulative through 1984 1,460,602 MCF.

Shell Western E and P, Inc. No. 6, Antelope Ridge Unit, over 1 mile Northwest, produced 10,776 MCF in August, 1985. Cumulative through August, 1985 was 2,117,427 MCF.

7. None.

8. Non-prorated.

9. Signed Statement enclosed.

Copies of Application submitted to Hobbs District Office and to El Paso Natural Gas Company.

Letter of Notification, Copy of application and plat of area furnished to offset operators.