STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico

8 May 1985

EXAMINER HEARING

IN THE MATTER OF:

Application of Corrine B. Grace for hardship gas well classification, Eddy County, New Mexico. CASE 8593

BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Jeff Taylor
Attorney at Law
Legal Counsel for the Division
Oil Conservation Division
Santa Fe, New Mexico 87501

For the Applicant:

MR. QUINTANA: We'll call next Case 8592--no, excuse me, 8593.

MR. TAYLOR: The application of Corrine B. Grace for hardship gas well classification, Eddy County, New Mexico.

The applicant has requested that this case be continued.

MR. QUINTANA: Case 8593 will be continued until May 22.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8593, heard by me on May 8 1985.

Gilbert P. Quintana Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

22 May 1985

EXAMINER HEARING

IN THE MATTER OF:

Application of Corrine B. Grace for hardship gas well classification, Eddy County, New Mexico. CASE 8593

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Jeff Taylor
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

MR. STOGNER: Call next Case Number 8593.

MR. TAYLOR: The application of Corrine B. Grace for hardship gas well classification, Eddy County, New Mexico.

The applicant has requested that this case be continued.

MR. STOGNER: Now this case will be continued legitimately to the Examiner's Hearing scheduled for June 5th, 1985.

MR. PEARCE: Mr. Examiner, if I may, I"m W. Perry Pearce of the firm of Montgomery and Andrews in Santa Fe.

I represent El Paso Natural Gas in this matter. El Paso sent representatives up from El Paso to present a statement in this case and found out on their arrival that it had been continued.

With the Examiner's permission, we'd like to make that statement at this time and simply have it made part of the record when the case comes on for hearing.

MR. STOGNER: Thank you, Mr. Pearce.

Will you be making the state-

ment?

MR. PEARCE: Yes, I will.

MR. STOGNER: Okay, you may continue.

MR. PEARCE: Thank you. Mr. Examiner, El Paso recognizes that there are wells within the State of New Mexico which need to be produced steadily in order to prevent underground waste. We believe that's the purpose of the hardship gas well classification system.

However, El Paso does feel compelled to remind at least the record in this proceeding that certain problems arise every time a well is granted hardship status.

One aim of El Paso Natural Gas historically has been to take gas ratably from gas wells with which it is connected in this state. In fact, ratable taking under some specified conditions is a statutory requirement.

We believe that each time a well is granted hardship status, that the aim of El Paso Natural Gas and the aim of the Oil Conservation Division and the New Mexico Oil And Gas Act is made harder to achieve; therefore, El Paso urges the Division to carefully review each hardship gas well application to insure that all possible steps have been taken to prevent underground waste

with the minimum interference with the historically pursued and statutorily required goal of ratable taking.

Thank you, Mr. Examiner.

MR. STOGNER: Thank you, Mr. Pearce. Your statement will be duly noted and made part of the record in this case.

Mr. Pearce, do you -- will you be making an appearance on behalf of El Paso for the other hardship gas well applications?

MR. PEARCE: In some of them I will, Mr. Examiner.

MR. STOGNER: Okay.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8593, heard by me on 22 May 1985.

Michael E. Stogner, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico

5 June 1985

EXAMINER HEARING

IN THE MATTER OF:
Application of Corinne B. Grace for hardship gas well classification, Eddy County, New Mexico. CASE 8593

BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Maryann Lunderman
Attorney at Law
Energy and Minerals Department
Santa Fe, New Mexico 87501

For the Applicant:

MR. QUINTANA: We'll call next Cases 8593 and 8615.

MS. LUNDERMAN: Application of Corinne B. Grace for hardship gas well classification, Eddy County, New Mexico.

MR. QUINTANA: In this case -- in Cases 8593 and 8615 both hardship gas well requests, they will be continued until -- did you say June 19th, Ernie?

MR. PADILLA: July 2nd.

MR. QUINTANA: They'll be continued until July 2nd, 1985.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8593, heard by me on June 5 1985.

Gilbert P. Quintana, Examiner
Oil Conservation Division

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE , NEW MEXICO

Hearing Date JULY 2, 1985 Time: 8:00 A.M.

NAME	REPRESENTING	LOCATION
A.R. Kendrick	Caulkins Oil Co.	Aztec
Wm. P. Aycock	Wm. P. Aycock Assoc., Inc	Midland
William F. Carr	Campbell + Black, P.A.	Santa Fe
Charles Verquer	Caulkins Oil Co.	Farmington
Joel Carson	Losee & Carson PA	Artesia
T. J. Sivley	Hondo Drlg Co	Artesia, N.M.
Raymond Lamb	" " "	Artesia N.M.
Ernest Carroll	Losee & Carson PA	Artesia NM
Farris Nelson	Zia Energy, Inc	Hobbs, NM
E.R. Manning	El Paso Natural Gas	El Paso, TX
W. L. McCoy	C. Grace	Santa Fe
Ernest L. Padilla	Attorney at Law	Santa Fe
JOHN F. NANCE	EL PASO NATURAL GAS Co	EL PASO, TX
[illegible] Sutton	Doyle Hartman	Midland Tx
[illegible]	Kellahin-Kellahin	Santa Fe
W Perry Pearce	Montgomery & Andrews	Santa Fe
W. T. Kellahin	Kellahin & Kellahin	Santa Fe

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JULY 2, 1985 Time: 8:00 A.M.

NAME	REPRESENTING	LOCATION
TERRY Hobbs	Southland Royalty Co	Farmington NM
A.R. GREER	BENSON-MONTIN-GREER DRLG CORP	FARMINGTON, N.M.
Mark Adams	Tarlton Estate	Albuquerque, N.M.
Dan Nutter	Cons. Engr	Santa Fe
Michael Stogner	NMOCD	Santa Fe, NM

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico

2 July 1985

EXAMINER HEARING

IN THE MATTER OF:

Application of Corinne B. Grace for hardship gas well classification, Eddy County, New Mexico. CASE 8593

BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:	Jeff Taylor Attorney at Law Legal Counsel to the Division State Land Office Bldg. Santa Fe, New Mexico 87501
For Corinne B. Grace:	Ernest L. Padilla Attorney at Law P. O. Box 2523 Santa Fe, New Mexico 87501

A P P E A R A N C E S

FOR EPNG CO.:

John P. Nance
Senior Attorney
El Paso Natural Gas Co.
P. O. Box 1492
El Paso, Texas 79978

I N D E X

E X H I B I T S

MR. QUINTANA: We'll call next case this morning 8593.

MR. TAYLOR: The application of Corinne B. Grace for hardship gas well classification, Eddy County, New Mexico.

MR. PADILLA: Mr. Examiner, my name is Ernest L. Padilla on behalf of the applicant in this case.

I have one witness to be sworn.

MR. QUINTANA: Are there other appearances in this matter?

MR. NANCE: Mr. Examiner, my name is John Nance. I'm with El Paso Natural GAs Company.

MR. QUINTANA: Anyone else?

Any witnesses, John?

MR. NANCE: No witnesses.

MR. QUINTANA: Would you please stand and be sworn in at this time?

(Witness sworn.)

WILLIAM G. McCOY,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. PADILLA:

Q Mr. McCoy, for the record would you please state your name and what your connection to the applicant is?

A My name is William G. McCoy, Santa Fe, New Mexico, Consulting Engineer and Geologist.

I've been retained by Corinne Grace to present the facts in the case.

Q Mr. McCoy, have you previously testified by the -- before the Oil Conservation Division and had your credentials accepted as a matter of record as a petroleum engineer?

A I have.

Q Have you also testified before the Oil Conservation Division in connection with -- as a geologist?

A I have.

Q Are you familiar with the facts of the case today insofar as this application for hardship gas classification is?

A I am.

MR. PADILLA: Mr. Examiner, we tender Mr. McCoy as an expert witness.

MR. QUINTANA: Mr. McCoy is

considered an expert witness.

You may proceed.

Q Mr. McCoy, can you briefly tell us what the application is about today?

A The purpose of the application is to eliminate any necessity of shutdown during production from the Strawn formation in the Corinne Grace No. 1 Grace Carlsbad in order to eliminate any damage to future recovery of natural gas.

Q Is that as a result of pipeline curtailment in general?

A It is my understanding that it is.

Q Mr. McCoy, let us refer to what we have marked as Applicant Exhibit Number One and have you identify it for the Examiner.

A Exhibit One is a land plat showing the proration unit of the Corinne Grace No. 1 Grace Carlsbad, being the east half, Section 36, 22 South, 26 East, Eddy County, New Mexico.

Q Okay. Let's refer to what we have marked as Exhibits number -- Exhibit Number Two and have you identify that.

A Exhibit Two is an OCD Form C-105 showing the original completion of the Grace Carlsbad from the Strawn formation.

Q Attached to that exhibit there are also some other documents. Would you identify what those are and what they contain?

A The second page is a back pressure curve showing the calculated open flow potential.

The third page is a C-102 showing the proration unit assigned and the footage from the east and the south line.

The fourth page is a C-103 showing the perforations of the Strawn formation.

The first page is the connection, notice of connection of the well on April 16th, 1973.

The last page, showing the rework on October 27th, 1984, of an acid job in the Strawn formation.

Q Essentially these documents represent the files of the Oil Conservation Division as far as the Strawn formation is concerned, is that correct?

A It is.

Q Let's move on now to what we have labeled as Exhibit Number Three and tell us what that is?

A Exhibit Three is the well schematic showing the casing strings, cementing record, perforations, packer and tubing placement of the well.

Q That schematic shows a dual completion. Can you explain the other completion on that well?

A The well was originally completed on May 4th, 1972, as a dual producer from the Strawn and the Morrow formations.

The Strawn had initial potential of 3,300,000 MCF; the Morrow, 9,765,000 MCF. The --

Q Does --

A Currently the Morrow is shut in. It has not produced since July, 1983.

Q Is there any chance that the Morrow will ever produce again?

A To my knowledge the reservoir pressure is not such that it will produce.

Q Okay. Let's go on now to what we have marked as Exhibit Number Four and tell us what that is.

A Exhibit Four is a report of the production superintendent for Corinne Grace, showing the activity of the well since January of 1985 through the month of May.

Each month the initial line shows the production of gas, oil, and water. You will note on January 19th the well was dead and necessitated running coiled (sic) and nitrogen to pump the water off the formation.

Again on February 1st the well died, had to flow to the pits to unload 28 barrels of water. After flowing to the pits the average production rate was 259 MCF.

On February 15th pipeline pressure was

too high, 640 psi, and the well was unable to produce into it. For that reason Mrs. Grace decided to install a compressor to assist production into the pipeline.

After, and during, the month of March, for 30 days after a compressor was installed, we had an average rate of 421 MCF per day.

In April, after producing -- after being shutdown for 24 hours, our rate was 274 MCF. We flowed to the pits about 6 barrels of water and put it back on production but we could still not increase the production beyond 258 MCF.

As we stated, in March, with no shut-in demands, we were making 421 MCF, but after being shutdown in April our rate was only 274 MCF.

On May 9th we were shut in again for a mandatory State shut-in for build-up pressure. We flowed to the pits 22 barrels of water and put it back on production.

Essentially what we're showing is each time that we're forced to be shut-in, we never again sustain the rate that we had prior to that shut-in.

Our maximum during 1985 was the 474 MCF in March.

Q Mr. McCoy, going back to October of 1984, when the acid job was done, did that -- did that work, or remedial work, have any kind of significance in allowing the

well to operate against the pipeline pressure?

A It did. What we found when we acidized is that we had salt accumulations in the tubing and essentially a 7-1/2 percent acid job is merely perforation cleaning, tubing cleaning, and does not increase the productive capacity of the formation, but it did assist our rate in reestablishing our production rate temporarily.

Q Yet a compressor was still necessary a few months later in order to allow the well to continue to produce.

A Produce into a pipeline, yes.

Q Do you have anything further to testify concerning Exhibit Number Four?

A No, I don't.

Q Let's move on now to what we have marked as Exhibit Number Five, but before I move on to that, let me ask you approximately how often and to what extent is swabbing necessary in order to keep the well producing following a shut-in period?

A If we're shut in for an excess of 24 hours, then we would require a swabbing unit and, probably, at a minumum of one day; estimated cost would be about $1750 if the well responds to swabbing in 24 hours.

Q Do you have an estimate of how many times the well has been swabbed, say, in the last six months?

A No. Without reviewing production that he's given from January on, we've only used coiled nitrogen to unload the water.

Q Okay. Let's move on to what we have labeled as Exhibit Number Five and tell us what that is.

A Exhibit Number Five is a production decline curve covering the last five years production. This was plotted for the purpose of attempting to establish a decline of some degree from the reservoir and you will note -- well, let's first of all look at the red lines at the top of the decline curve indicate periods of shutdown. Each single line is one month shutdown.

The dual line to the right during 1984 is a three-month period shutdown when the well was unable to produce.

If you notice the highly erratic nature of the decline, there's no effective decline rate established. It seems like if the well is shutdown, immediately on, let's say, take the period of November/December '82, it was shutdown in November; when we established a rate it will come back up and immediately drop off. The well was shut-in again for a one-month period; produced for one month; shut-in another period; the rate never did re-establish itself.

In October '83, shut-in again. The well never did come back to the previous rate; dropped, instead,

and continued to drop.

Then, for -- during the period of March '84 it increased production up to still not at the degree that it was previously.

A three month shut-in period, the well did not re-establish its rate.

We then acidized it in October of '84 and we got an immediate response from that, but there is no way that we can forecast how long this rate will establish. We already see a decline from May to June of 1985. The next month could be even lower and it could go down to another rate lower than we had established with the rework, but there's no way that we can utilize this curve to make any estimate of declines.

Q Are you saying that you cannot reliably plot a decline curve on this well?

A I could not.

Q What, in this exhibit what would indicate that there would be reservoir damage if the well is not allowed to produce?

A Well, I think the dropping, for instance, the period where we see the shut-ins, we never do seem to re-establish the original rate prior to the shut-in. So any shut-in is damaging this formation and each period contributes a degree to that formation damage; each time we're shut-in one month, two months, three months. It would be an

accumulative damage to the formation.

Q Have you performed a log-off test on this well?

A We have not because of the potential of killing the well and possibly not re-establishing production.

Q You have made that recommendation not to conduct a log-off test?

A Yes, sir.

Q Does this well have an allowable problem? Is it over produced?

A It is not. It's classified stripper production, to my knowledge.

Q But it's not overproduced on an allowable basis, as far as you know?

A No.

Q Let's go on to what we have marked as Exhibit Number Six and tell us what that is.

A Exhibit Six is a copy of P/z report obtained from Dwight's Commercial Reporting Service.

I've utilized this to make a P/z extension plot to make an estimate of the recoverable reserves from the well.

Based on the data it appears that the ultimate recovery would be 1.9 BCF.

Q Does that assume continuous production?

A That assumes continuous production and as of June 1st of this year, our cumulative production is 1.3 BCF, approximately, which means we have .5 BCF remaining in the ground potential recoverable reserves.

Q And those reserves could be lost if the well is shut-in indefinitely or for some period of time?

A There could be damage to the extent of not being able to recover the full potential reserves.

Q What, in your opinion, is the minimum sustainable rate that this well ought to have? Have you calculated that figure?

A Based on the production since the first of the year, we have estimated that a minimum rate of 301 MCF per day sustainable rate will remove the water and allow us to continue to produce a reasonable rate of production without shut-in.

Q What happens if you produce under 301 MCF a day?

A The tendency would be for the well to be unable to unload the water which is currently averaging 65 barrels of water per month and the water would accumulate and subsequently kill the well.

Q Is the pressure of the well material in your considerations as to arriving at that 301 figure?

A The current pressure?

Q Yes.

A Yes.

Q Now that is also magnified or amended to some extent because you have the compressor on the well, is that correct?

A We did install at the cost of $68,000 a compressor to produce into the pipeline to allow us to continually produce the well.

Q What is your -- in conclusion can you tell us what your final recommendation to the Division is concerning this application?

A That in order to prevent waste and allow Mrs. Grace to recover the ultimate, marjority of the ultimate recovery remaining, that the well not be subject to shut-in.

Q In other words, that the application be granted?

A Yes.

Q Do you have anything further to add to your testimony?

A I do not.

MR. PADILLA: Mr. Examiner, we tender the witness for cross examination.

MR. QUINTANA: Would you like

to introduce the exhibits?

MR. PADILLA: Yes. I would also move the admission of Exhibits One through Six.

MR. QUINTANA: Exhibits One through Six will be entered in evidence.

Cross examine?

MR. NANCE: Yes, Mr. Examiner, I appreciate it.

CROSS EXAMINATION

BY MR. NANCE:

Q Mr. McCoy, do you find that the production from this well is truly unusual?

A I do. The production decline curve reflects this.

Q The Exhibit Five, which is the production history, I understand, for the five-year period?

A Yes, sir.

Q Is that a total production figure rather than an average daily production figure that is -- is plotted on that curve?

A The data reflects only the last five years and is a monthly reported figure on the C-115's.

Q Okay, does it not take account of days not produced, for example, which --

A Yes, it does, but there's no reflection in the records how many days each month; it's assuming that it's normal, full month production.

Q In other words, though, if the well is -- is not produced for a given period of time, there would be no idea from that exhibit that the average daily production is -- is, for example, on some sort of steady basis, rather than the exaggerated variations that you show on the exhibit.

A Well, I think you have to have knowledge that in the absence of anything to the contrary, it's assumed that it's a full month of production, unless we have some other evidence.

Q All right. Do you think it would be part of normal production practices to remove water from the well or is this something extraordinary as far as this well is concerned?

A Well, it's the normal. Most wells will have some amount of water production, but if the rate is sufficient, we have formulas we can pump in there and say that it maintains 500 MCF it will remove water in (not understood), but you have to have a minimum sustainable rate for it to remove that water.

Q Okay, you have said, then, that the minimum sustainable rate that you have calculated is approxi-

mately 300 MCF per day.

A I did not calculate that. That's based on production for the first five months of this year, that we have been able to maintain production.

Q That is the production rate that has been experienced thus far this year.

A Yeah, that's an average, taking five months production and averaging it for each month and then calculating --

Q And then you --

A -- it five a day (sic) and we come up with a figure of 301.

Q But that figure is one that you feel would be supported as far as -- as a minimum --

A That would be a minimum.

Q A minimum rate that the well should be allowed to produce.

A Right, without shut-in.

Q Once again, on the subject of prudent operation, do you feel that anything extraordinary needs to be done in order to keep out the salt rings from --

A Probably periodically, depending on the production rate, to go in and re-acidize with a 7-1/2 percent acid, and this might be three months, six months, it's kind of hard to tell.

It would be based on your monthly average rates. You could tell whether that's becoming a problem or not.

Q What effect does going in and re-acidizing have on the production?

A It's done at a -- set up and performed immediately, no rate at all; you can just get the well to flow right back.

Q How long a period of time does that take to acidize?

A Six hours.

Q I see.

One minute, if you would, please.

MR. NANCE: Mr. Examiner, El Paso doesn't have any additional questions at this point. We would like to reserve the right to make a closing statement in the case.

No questions.

REDIRECT EXAMINATION

BY MR. PADILLA:

Q Mr. McCoy, let me ask you a couple of questions concerning Exhibit Number Five and concerning the questions by Mr. Nance to you concerning that exhibit.

Doesn't the relevant data for this well

really begin around 1983 when you have definite periods of shut-in on the well?

A It seems that that's the period where we start having -- are starting to have problems with sustaining flow from the well.

Q Now if you were to attempt a production decline curve based upon your information on that well, for say 1980 to 1982, you would have a flatter line than one starting at 1981 to 1985, wouldn't -- isn't that correct?

I mean if you divide your chart in half, in other words, --

A Yeah.

Q -- up to the end of 1982, you'ld have pretty much of a flat line.

A Well, you'd have a decline, I think. I think a period, probably, from about April of '81 through about October of '82, you could utilize that period and make some extension to that curve, but you will have a decline.

Q Well, would you say that after 1982, then, based upon what you show here, you would have -- is that what makes this unreliable as far as being able to --

A The data past that period of '82 shut-in is unreliable for any forecasting, because we don't know this last peak that we've experienced since our acid job, whether we look at it to the end of the year the production

might be right down where it started. In other words, we might have just probably a temporary -- temporary response to that acid job.

MR. PADILLA: I have no further questions, Mr. Examiner.

CROSS EXAMINATION

BY MR. QUINTANA:

Q I have a few questions, Mr. McCoy.

Looking at Exhibit Number Five, in March or April of 1981 there was a sharp increase in production of the well. What was that attributed to?

A I have no knowledge. That could be a reservoir response.

Q I notice on the decline from approximately April of 1981 through the beginning of a period when there were shut-ins on the well, there's a sort of set decline there.

A Yes.

Q And I also can't help but notice that during that period of shut-ins there's sporadic production during '83 and '84. The decline hasn't really fallen off any line from the time before in '81 and '82.

Can you -- can you explain that?

A Well, if I were doing -- just looking at

it, it appears to me that if we were to draw a line on a decline, we'd have -- well, I'm just going to shotgun this now without doing any calculation -- but about a 15 percent decline utilizing that period of data, but if we were to utilize the data after that, we'd be down considerably. At the starting point we might have the same decline but our rate would be significally different. We'd be down at the lower part of the curve.

Q Do you know how many times this well has been acidized in the last -- its history, approximately?

A No, I don't. We have a new production superintendent for Mrs. Grace down there that's just recently taken over and he has no -- could furnish no idea how many times in the past, since '73, it's been acidized, or re-treated, but the records in the OCD files reflect no acid jobs, no reperforating in the files here at the OCD.

Q I don't mind being frank with you, it bothers me that you acidized the well in the later part of '84 and experienced a response as high or a little bit almost, well, approximately as high as 1981.

A Uh-huh.

Q Can you give me your professional opinion why you believe that this was only a temporary response and not just a cleaning that was needed on the well for many years?

A Right. Well, I'm not saying it's going to drop back, and we don't know at this point. When we look at it when we do that type of acid job, 7-1/2 percent acid is not a formation capacity increasing acid. It's merely used for cleaning perforations or removing wellbore damage, and that's all. It does not increase the capacity of the formation.

Therefore my assumption is that it will be a temporary. If I were to increase the capacity of the formation, I would tend to use 15 percent or 28 percent acid and probably try to inject it at a rate sufficient to penetrate beyond the current wellbore.

7-1/2 percent is merely just to clean the formation, the tubing , the perforations. It's not a hot acid at all.

Q Is it not so, though, by -- that by cleaning the perforations that you decrease the pressure drop across those perforations and that you'll average somewhat of a rate increase?

A Yeah, we would, but there again I don't think we can make any firm forecasting that that's going to cure the problem with the capacity of the formation. I don't think we can say that it's going to permanently cure it.

I think it might -- I would not be sur-

prised to see this rate drop down probably within the next month or two. We already see a decline in the last month's production, that it could continue down there, but maybe re-establishing that decline that we see back in that '81-'82 period, say, we might be back on that same type of decline.

We might have done that.

Q Let me dwell (sic) into -- bear with me here --

A Okay.

Q -- dwell into another area. Would you again explain to me how you calculate your minimum sustainable rate and explain it to me?

A All right. What I did was take the average production that we see reported on our form, our superintendent's report from January through April and the C-115 for May's production in the file, total that production, and calculated an average monthly rate of 9,000,155 MCF -- 9,155 MCF; 53.7 barrels distillate, and 65 barrels of water per month, just to get an average; then divided that monthly rate by 30.4 days per month and came up with the 301 MCF plus 1.8 barrels of distillate and 2.1 barrels of water per day, and assumed that that would be a minimum rate.

So we do see that we -- we're doing a little better in March than we were in April and May.

Q Is your testimony that this peak that was

-- has occurred in 1985 won't be short-lived and it should drop fairly rapidly in the next --

A Well, I think when we just -- just previously had mentioned that, that very possibly that re-established a decline rate that could forecast in '81 and '82 using that decline. It could re-establish the decline rate at the level we show in, say, June of '85, taking, say, December '84 through June -- through May of '85, drawing a decline through those points, we may re-establish the rate that was existent, potentially existent there, I mean, in '81 and '82.

In other words, I think we're going to decline. I don't think there's any question of that.

MR. QUINTANA: I have no further questions of the witness.

MR. PADILLA: If I may ask a couple of follow-up questions, Mr. Examiner.

REDIRECT EXAMINATION

BY MR. PADILLA:

Q Mr. McCoy, is the amount of production relevant in this case?

A The amount of production?

Q Yes. In other words, --

A Previous or --

Q Well, the -- let's just look at the 1985 production. Does that affect a hardship classification? You've already testified that it's your opinion that reservoir damage could occur if the well is not continuously produced.

A Yes.

Q My question to you is, does the average monthly production for 1985 have anything to do with whether or not a hardship application should be granted or denied.

A Well, I think that if we are not allowed to produce the present capacity of the well, I think we will suffer formation damage.

I don't know, it may increase the operating costs. We may have to go in there and try other methods of recovery to try to sustain or recover from the damage due to shut-in.

Q But hasn't Mrs. Grace already taken remedial action by putting on the compressor and acidizing the formation?

A Yes, she has.

Q If the well is shut-in and further expense is spent on that well, would you have a tendency to have economic waste or potential for economic waste?

A Yes, we would.

Q Now is this a type of well that could be

producing 300 MCF a day and potentially, after a shut-in period, just be killed, not be able to get back into production?

A Well, that's always a possibility. It's always a possibility once you shut in a well, the damage is undeterminable until it happens.

Q In your experience has this occurred with a -- with a well with this type of tubing pressure? What's the tubing pressure on this well?

A Currently flows at approximately 160 to 200 psi, which is below the line pressure.

Q In your opinion is that a low pressure well?

A It's a low tubing pressure, yes; barely sustainable rate.

Q And you've taken that into consideration in applying your -- arriving at your figure of 301 MCF?

A Yes, I have.

Q Now the only way you could actually arrive at a minimum -- minimum sustainable rate would be to actually do a log-off test, is that correct?

A Probably that would be it, but not at the inherent risk of a log-off test.

MR. PADILLA: I have no further questions, Mr. Examiner.

MR. QUINTANA: Mr. Nance?

MR. NANCE: Is it appropriate to make a statement at this point, Mr. Examiner? I don't have any further questions.

MR. QUINTANA: Are there further questions of the witness?

Mr. Padilla, do you have any closing statements?

MR. PADILLA: I'd defer to Mr. Nance first. I'd like to see what he says.

MR. QUINTANA: Well, I was just checking to see if you would have any.

Mr. Nance, you may proceed.

MR. NANCE: Thank you, Mr. Examiner.

First and foremost, El Paso Natural Gas Company's concern in this case and any other similar case is our recognized need to take ratably from all wells connected to our system. We feel this is necessary under the statutes and regulations and is simply appropriate for us to do just that and to the extent that any well becomes classified as a hardship well, it therefore is going to receive special treatment and be excepted from the takes that we would otherwise be making and from the shut-in of wells that we would otherwise be experiencing for our sys-

tem.

The Commission has -- has come up with a plan for such a special treatment where wells are in an unusual situation. We feel to the extent that a well can be legitimately shown to be deserving of such treatment, that that classification is entirely proper. We don't specifically object to any particular wells being classified as a hardship well. We feel that it's indeed necessary that some wells be given this classification.

In this particular case we appreciate the fact that a demonstration is being made of the unusual characteristics of the well and that is what we like and want to see done in each circumstance.

We do not want to foster a practice of applying for hardship classification and then simply by postponements or other tactic, receiving special treatment for a well and then not being able to demonstrate the true need for such a classification.

The showing here this morning, we did not have any serious problems or objections to but we do feel that it is absolutely necessary that a clear showing be made of the need for such treatment.

That's all.

MR. QUINTANA: Do you have anything?

MR. PADILLA: I don't have an argument to his closing statement. I think that we have shown that we have a hardship well and the nature of the well is such that it -- despite the production for 1985, that there -- the well is truly a hardship well. It has unusual producing capabilities. The fact that the acid job combined with the compressor have increased the production, we believe is irrelevant.

The point is that if this type of well is not allowed to produce on a continuous basis, there's going to be reservoir damage. There's no evidence to the contrary, and so with that, I will close.

MR. QUINTANA: Thank you, Mr. Padilla.

If there are no further queestions of the witness? If not, he may be excused.

This case will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8593 heard by me on July 2 1985

Gilbert P. Quintana Examiner
Oil Conservation Division