CASE [illegible]. Application of [illegible],
[illegible] & [illegible] for establishment
of a limiting gas-oil ratio in the
JACKSON-ABO POOL, EDDY COUNTY, N.MEX.

Case No.

2395

Application, Transcript,

mail Exhibits, Etc.

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 871
SANTA FE

October 19, 1961

Mr. Neil B. Watson
Watson & Watson
Attorneys at Law
Carper Building - Drawer E
Artesia, New Mexico

Re: Case No. 2395
Order No. R-2096
Applicant:
Nash, Windfohr and Brown

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC
OTHER

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 2395
Order No. R-2096

APPLICATION OF NASH, WINDFOHR
& BROWN FOR THE ESTABLISHMENT
OF A LIMITING GAS-OIL RATIO
IN THE JACKSON-ABO POOL, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on October 4, 1961, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 18th day of October, 1961, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Nash, Windfohr & Brown, is the owner of all lands in the Jackson-Abo Pool comprising the S/2 of Section 24, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, and the operator of the Jackson Well No. 22-B located in the NW/4 SW/4 of said Section 24 and the Jackson Well No. 23-B located in the NW/4 SE/4 of said Section 24.

(3) That the applicant seeks the establishment of a limiting gas-oil ratio of 4000 : 1 for the Jackson-Abo Pool.

(4) That inasmuch as there is no present need for a gas-oil ratio in excess of 2000 : 1, as prescribed by the Commission's general rules, the subject application should be denied.

(5) That a procedure should be established whereby applicant can secure administrative approval for an increased gas-oil ratio in the subject pool upon a showing of good cause.

IT IS THEREFORE ORDERED:

(1) That the request of the applicant, Nash, Windfohr & Brown, for the establishment of a limiting gas-oil ratio of 4000 : 1 for the Jackson-Abo Pool comprising the S/2 of Section 24, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, is hereby denied.

PROVIDED HOWEVER, That the applicant, upon the showing of good cause, may secure administrative approval from the Secretary-Director of the Commission increasing the gas-oil ratio for the pool.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

esr/

Case 2395
Heard 10-4-61
Rec. 10-9-61

1. Deny Windfohr's request for a 4000:1 GOR for Jackson-Abo pool.

2. Set up administrative procedure for increasing GOR above 2000 upon adequate evidence that it is needed upon recompletion of their Jackson #23, NW SW Sec. 24-17S-30E.

[signature]

1.
2.
3.

No. 27-61

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 4, 1961

9:00 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM
STATE LAND OFFICE BUILDING ---- SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, as alternate examiner:

CONTINUED CASE

CASE 2367: Application of Skelly Oil Company for an unorthodox gas proration unit in the Jalmat Gas Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool, consisting of the NE/4, NW/4 SE/4, N/2 SW/4 and SW/4 SW/4 of Section 17, Township 23 South, Range 37 East, Lea County, New Mexico; said unit is to be dedicated to the E. L. Steeler Well No. 7, located 1980 feet from the South line and 660 feet from the West line of said Section 17.

NEW CASES

CASE 2388: In the matter of the hearing called by the Oil Conservation Commission to permit Juan J. (John J.) Moya and all interested parties to appear and show cause why the Jones Well No. 1, located 1650 feet from the South line and 990 feet from the East line of Section 7, Township 30 North, Range 11 West, San Juan County, New Mexico, should not be plugged.

CASE 2389: Application of Shell Oil Company for approval of the Cabezon Unit Agreement, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Cabezon Unit Agreement embracing lands in Townships 16 and 17 North, Ranges 2, 3 and 4 West, Rio Arriba County, New Mexico.

CASE 2390: Application of Continental Oil Company for a 320-acre non-Standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool, comprising the S/2 of Section 7, Township 23 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the Stevens B-7 Well No. 1, located 990 feet from the South and West lines of said Section 7.

CASE 2391: Application of Continental Oil Company for a 320-acre non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 320-acre non-standard gas proration unit in the Jalmat Gas Pool, comprising the S/2 of Section 25, Township 23 South, Range 36 East, Lea County, New Mexico, said unit to be dedicated to the Lynn B-25 Well No. 2, located 990 feet from the South and West lines of said Section 25.

CASE 2392: Application of Continental Oil Company for a 240-acre non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 240-acre non-standard gas proration unit in the Jalmat Gas Pool, comprising the NW/4 and W/2 NE/4 of Section 23, Township 22 South, Range 36 East, Lea County, New Mexico, said unit to be dedicated to the Meyer B-23 Well No. 3, located 1980 feet from the North line and 660 feet from the West line of said Section 23.

CASE 2393: Application of Continental Oil Company for a 240-acre non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 240-acre non-standard gas proration unit in the Jalmat Gas Pool, comprising the SE/4 and E/2 NE/4 of Section 23, Township 22 South, Range 36 East, Lea County, New Mexico, said unit to be dedicated to the Meyer B-23 Well No. 2, located 990 feet from the South line and 1650 feet from the East line of said Section 23.

CASE 2394: Application of Hondo Oil & Gas Company for permission to directionally drill, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks permission to directionally drill a well to be located 2310 feet from the North line and 1980 feet from the East line of Section 26, Township 17 South, Range 28 East, Eddy County, New Mexico.

CASE 2395: Application of Nash, Windfohr & Brown for the establishment of a limiting gas-oil ratio in the Jackson-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a limiting gas-oil ratio of 4000: 1 in the Jackson-Abo Pool in Township 17 South, Range 30 East, Eddy County, New Mexico.

CASE 2396: Application of C. W. Trainer for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to locate his Hobbs Well No. 1 at an unorthodox oil well location in the Hobbs Pool, 2545 feet from the North line and 1184 feet from the East line of Section 34, Township 18 South, Range 38 East, Lea County, New Mexico.

CASE 2397: Application of Reading and Bates, Inc. for a temporary exception to Rule 107 (d), Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a temporary exception to Rule 107 (d) to permit the production of oil from its Simms Federal Well No. 1 located in Section 34, Township 18 South, Range 30 East, North Benson Queen Pool, Eddy County, New Mexico, without installing tubing.

CASE 2398: Application of Ford Chapman for a 42.35-acre non-standard oil proration unit, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 42.35-acre non-standard oil proration unit in an undesignated Delaware pool comprising Lot 12, Section 34 and Lot 9, Section 35, all in Township 26 South, Range 29 East, Eddy County, New Mexico, said unit to be dedicated to the Curtis Hankamer Gulf-Federal Pipkin No. 1 Well, located 330 feet from the South line and 605 feet from the East line of said Section 34.

CASE 2399: Application of Texaco Inc. for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location in the Paduca-Delaware Pool for its Cotton Draw Unit Well No. 54, located 1980 feet from the North line and 2339 feet from the East line of Section 28, Township 25 South, Range 32 East, Lea County, New Mexico.

CASE 2400: Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its C. H. Weir "A" Well No. 7, located in Unit L, Section 12, Township 20 South, Range 37 East, Lea County, New Mexico, as a triple completion in the Eumont Gas, Skaggs-Glorieta, and Skaggs-Drinkard Pools, with production of oil from the Drinkard and Glorieta zones to be through parallel strings of 2 3/8 inch tubing and the production of gas from the Eumont Gas Pool through the tubing-casing annulus.

ig/

Case 2325

LAW OFFICES
WATSON & WATSON
CARPER BUILDING - P. O. DRAWER E
ARTESIA, NEW MEXICO

NEIL B. WATSON
FRED A. WATSON

TELEPHONE
SHERWOOD 6-4151

September 13, 1961

Mr. Richard S. Morris,
Attorney at Law,
Oil Conservation Commission,
P. O. Box 871,
Santa Fe, New Mexico.

Dear Mr. Morris:

Re: Nash, Windfohr and Brown

Mr. Windfohr has now returned and advises me that the date of October 4, 1961 for hearing in Santa Fe on the application to establish a 4000 to 1 limiting gas - oil ratio in the Jackson - Abo Pool, will be entirely satisfactory with him.

Accordingly, I presume the matter will be set for hearing on that date and, if I am in error, please advise. Also, please send me a copy of your official notice of hearing.

Thank you very much for your cooperation in setting this at a time when Mr. Windfohr can be present.

Yours very truly,

Neil B. Watson.

NBW:lve

cc :Mr. Windfohr

Docket Filed 9-14-61

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

Case 2395

September 1, 1961

Mr. Neil B. Watson
Attorney at Law
Carper Building
Artesia, New Mexico

Dear Mr. Watson:

Your application in behalf of Nash, Windfohr and Brown for the establishment of a 4000 to 1 limiting gas-oil ratio in the Jackson-Abo Pool, Eddy County, New Mexico, is tentatively being set for hearing on October 4th.

The Commission has scheduled an examiner hearing for September 20th, but in accordance with your request that the matter be set down for hearing subsequent to September 22nd, the hearing of the subject application has been deferred to the October date.

If the date of October 4th is unsatisfactory to you, please notify me as soon as possible.

Very truly yours,

RICHARD S. MORRIS
Attorney

RSM/esr

NEIL B. WATSON
FRED A. WATSON

LAW OFFICES
WATSON & WATSON
CARPER BUILDING - P. O. DRAWER E
ARTESIA, NEW MEXICO

TELEPHONE
SHerwood 6-4151

August 24, 1961

Oil Conservation Commission
of New Mexico,
P. O. Box 871,
Santa Fe, New Mexico.

Attention: Mr. A. L. Porter, Jr. or Mr. Daniel S. Nutter.

Gentlemen:

Confirming my telephone call of a few days ago, I have prepared and now enclose an Application and Petition for a re-determination of the specific gas - oil ratio limit for the Jackson-Abo Pool in Eddy County, New Mexico.

As you know, we are attorneys for Nash, Windfohr & Brown, the operator that owns all of the acreage in this field as well as adjoining acreage.

We would like to have the matter set down for hearing for some date subsequent to September 2nd, because Mr. Windfohr is going to be unable to attend the hearing until after that date, and he would like to attend the hearing in person and present the facts for your consideration with reference to this Application.

We will certainly appreciate your consideration in setting the matter down for hearing at a date and time which will permit Mr. Windfohr to be there.

Yours very truly,

Neil B. Watson

NBW:rjb
Encs.

cc: Mr. R. F. Windfohr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

RE: APPLICATION AND PETITION OF NASH, WINDFOHR & BROWN FOR A RE-DETERMINATION OF THE SPECIFIC GAS - OIL RATIO LIMIT APPLICABLE TO THE JACKSON-ABO POOL IN EDDY COUNTY, NEW MEXICO.

CASE NO. 2395

APPLICATION AND PETITION

COMES NOW Nash, Windfohr & Brown, a partnership, by its attorneys, Watson & Watson, Artesia, New Mexico, and petitions the Commission for a hearing and a re-determination of the specific gas - oil ratio applicable to the Jackson-Abo Pool, consisting of the S½ of Section 24, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico, and states:

1. That the applicant, Nash, Windfohr & Brown, has heretofore completed two producing wells in Section 24, Township 17 South, Range 30 East, N.M.P.M., said wells being described as the Jackson 22-B Well in the NE¼SW¼ of Section 24, and the Jackson 23-B Well in the NW¼SE¼ of Section 24, Township 17 South, Range 30 East, N.M.P.M. That said wells are producing from the Abo Formation and were new discoveries in the area.

2. That said wells are more than one (1) mile from the outer boundary of any defined pool which has produced oil or gas from the Abo Formation, and heretofore, by Order No. R-2044 of the Commission entered the 28th day of July, 1961 in Case No. 2333, the Commission created and designated the Jackson-Abo Pool, consisting of the S½ of Section 24, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico. That Nash, Windfohr & Brown is the lessee in all of the lands in the Jackson Abo Pool and is the operator of said wells, and there are no other lessees or operators owning or holding any oil or gas lease interests in the Jackson-Abo Pool.

3. That in the Jackson 23-B Well, the top of the pay formation was encountered at 6,920 feet, and water was encountered

at 6,997 feet. Operator perforated from 6,970 feet to 6,984 feet, being below the top of the pay zone and within 13 feet of the water. That said well was drill stem tested from 6,920 feet to 6,974 feet on a 3/4" choke and flowed 17 barrels of oil in one hour with 4,070 MCF of gas per day, or a gas - oil ratio of approximately 10,000 to 1. That at the present time, said well is producing with a gas - oil ratio of approximately 4,000 to 1.

4. That applicant states, on information and belief, that the Jackson 23-B Well is on the front side of the Abo Reef and the Jackson 22-B Well is on the back side of the Abo Reef, and there is a higher gas - oil ratio on the front side of the Abo Reef Formation in this area. That applicant will furnish at the time of the hearing a North and South cross section to demonstrate that the Jackson 23-B Well is on the front side of the Reef and the Jackson 22-B Well is on the back side of the Reef.

5. That the cost of the wells drilled by applicant in the Jackson-Abo Pool is approximately $100,000.00 a well, and in order for applicant to recover the cost of said wells, an exception to the gas - oil ratio for said pool should be established at 4,000 cubic feet of gas per barrels of oil, which is the present gas - oil ratio in the Jackson 23-B Well. That applicant believes that applicant's present method of producing said Well is the proper method to produce the Well to obtain the maximum recovery without waste or loss. That all of the gas from said Well is being sold by applicant to Phillips Petroleum Company. That there are no other operators in the Jackson-Abo Field, and applicant states that the granting of an exception to Rule 506 to provide a gas - oil ratio limit of 4,000 cubic feet per barrel of oil will not adversely effect the rights of any other oil and gas lessee or operator.

6. That applicant desires to study the characteristics of the Abo Formation in this field, as applicant has other leased

lands in the field and in the area which applicant may desire to test if further producing of the wells establishes that other wells can be drilled to the Abo Formation and be commercial producers of oil and gas.

WHEREFORE, applicant prays that the Commission set a hearing upon notice to re-determine the specific gas - oil ratio limit applicable to the Jackson-Abo Field, which consists of the S½ of Section 24, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico, and that the gas - oil ratio limit be established at 4,000 cubic feet of gas for each barrel of oil produced, and that all necessary and proper Orders and Notices be made and issued in the premises.

NASH, WINDFOHR & BROWN, A PARTNERSHIP

by Watson & Watson

by _____

Attorneys for Applicant,
P. O. Drawer E,
Artesia, New Mexico.

SF

Form C-116
Revised 12/1/55

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Nash Windfohr & Brown POOL Jackson Abo

ADDRESS 1st Nat'l Bank Bldg Fort Worth Texas MONTH OF Oct., 19 61

SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST V (Check One)

(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
Jackson B	23	9-25 9-26	F	14/64	24	61	—	60.69	137	2261

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date Oct 2, 1961

Nash Windfohr & Brown
Company

By [signature]

Partner
Title

Memo

From
R. L. Stamets
Geologist

To Dan Nutter

Dear Dan

You will note that this GOR [illegible] one of the wells in the Jackson Abo Pool that NWCB are requesting [illegible] 1 GOR in CT-4 hearing

D[illegible]

Form C- 116
Revised 12/1/55

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Nash, Windfohr & Brown POOL Jackson Abo

ADDRESS 1212 First National Bank Bldg. MONTH OF September 25, 1961

SCHEDULED TEST ..... COMPLETION TEST ..... SPECIAL TEST X (Check One)

(See Instructions on Reverse Side)

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
Jackson B	22	9/22-23	Flow	10/64	24	61	-	85.5	115	1348

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date September 25, 1961

Nash, Windfohr and Brown
Company

By R. F. Windfohr, Partner

Title

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
October 4, 1961

EXAMINER HEARING

IN THE MATTER OF:
Application of Nash, Windfohr & Brown for the establishment of a limiting gas-oil ratio in the Jackson-Abo Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a limiting gas-oil ratio of 4000: 1 in the Jackson-Abo Pool in Township 17 South, Range 30 East, Eddy County, New Mexico.

CASE NO. 2395

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

EXAMINER UTZ: We will call Case No. 2395.

MR. MORRIS: Application of Nash, Windfohr & Brown for the establishment of a limiting gas-oil ratio in the Jackson-Abo Pool, Eddy County, New Mexico.

MR. WATSON: Neil B. Watson, Artesia, New Mexico, representing Nash, Windfohr & Brown. I have as witnesses Mr. V. T. Sheldon and Mr. R. F. Windfohr.

(Witnesses sworn.)

EXAMINER UTZ: Are there other appearances to be made in this case?

Let the record show there are none.

You may proceed, Mr. Watson.

V. T. SHELDON,

called as a witness, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WATSON:

Q Mr. Sheldon, you live at Artesia and you have testified here before the Commission on previous hearings as an expert, is that correct?

A That is correct.

MR. WATSON: His qualifications have been established here before.

EXAMINER UTZ: Yes. You may proceed.

Q (By Mr. Watson) Mr. Sheldon, were you employed by Nash, Windfohr & Brown as a consultant with reference to the drilling of the Nash, Windfohr & Brown Jackson 22B Well in the Northeast of the Southwest of Section 24 in the Jackson 23B Well in the Northwest Southeast Quarter of Section 24, Township 17 South, Range 30 East?

A Yes, I was.

Q And were you familiar with the drilling operations and examined the log samples, etc., during all the time those wells were being drilled?

A Yes, I did.

Q Based upon the information that you obtained in that connection, have you prepared a north-south cross-section with

reference to those two wells?

A Yes, I have.

MR. WATSON: I'd like to have this marked, please, as Exhibit 1.

(Applicant's Exhibit 1 marked for identification.)

MR. WATSON: We have no other copy at this time. I would like for Mr. Sheldon to testify from this and then we will introduce it in evidence.

EXAMINER UTZ: What does it show?

THE WITNESS: I don't need it in front of me.

Q (By Mr. Watson) Mr. Sheldon, would you please tell us what Applicant's Exhibit 1 shows, the north-south cross-section there?

A Exhibit 1 was prepared in two parts. The first part is a north-south cross-section which shows the south cross-section approximately a mile long showing the entire Abo-Wolfkamp Reef setup through there. It was designed mainly to show that the hydrocarbons are trapped in a very small portion of the total reef structure.

There is only some one hundred feet of the uppermost closure filled with hydrocarbons. The band of possible production is very narrow. Certainly it doesn't appear to be over a quarter of a mile wide right through this Jackson-Abo Pool. Of course, it has a habit of widening out in various spots, but

through here it seems to be only a quarter of a mile wide. It is quite tricky.

Then, the blown-up detail over to the side shows the cross-section as it directly relates to the Nash, Windfohr & Brown Jackson B22 and 23. The first well, the 22 well, as we put in the testimony here at a previous hearing, was what we considered to be slightly back reef. The porousity was encountered at quite a distance below the top of the Abo Formation. There were green and gray shales present in this barren section above the porousity which we ordinarily construe to mean back reef or at least slightly back of the crest of the structure.

Then, by moving to the unorthodox location at which 23 was drilled, we fell over the top of the reef and drilled what is obviously a basin wood. I mean, it's south of the reef crest, but the porousity was encountered above water, and the well was made.

The cross-section further shows that the crest of the structure is probably between the two wells, but a very short distance, geographically, behind the number 23 well. I believe that is my answer to your question.

Q All right, sir.

MR. WATSON: We will offer this Exhibit in evidence at this time.

EXAMINER UTZ: Without objection, Exhibit 1 will be entered into the record of this case.

(Whereupon, Applicant's Exhibit 1 entered in evidence.)

MR. WATSON: We have no further questions from this witness.

EXAMINER UTZ: Are there questions of Mr. Sheldon?

MR. NUTTER: Will your other witness go into the details of the completion of the well?

MR. WATSON: Yes, sir.

MR. NUTTER: That's all.

EXAMINATION

BY MR. MORRIS:

Q Mr. Sheldon, do you have the latest GOR figures on the well?

A Mr. Windfohr will testify to that.

MR. MORRIS: I have no questions; thank you.

EXAMINATION

BY EXAMINER UTZ:

Q Mr. Sheldon, the only portion of this reef that you show on this cross-section that is productive -- the two wells shown over here, are they both productive?

A Yes, but those two cross-sections are on different scales. You see, the main cross-section shows the yellow hydrocarbon reservoir and then, the other thing is the blown-up cross-section, and the two wells shown are productive.

Q The wells on the small scale, B58 and B77, they're

both productive?

A No, not in the Abo. They're water wells in the reef. The color blue is water.

Q So actually, the only production that you show on this map is the part that is on the two wells, 22 and 23?

A Yes. There are a few other wells, especially down in the -- well, there are only two wells in this field, but in the Cedar Lake-Abo Pool, which is a related field, there are some seven or eight Windfohr wells.

MR. NUTTER: You say that one of the wells was drilled on the front side of the reef and the other was slightly back-reef. Is there any correlation between this location of the well, as far as the reef is concerned, and the GOR of the two wells?

A Any significance to the fact --

MR. WINDFOHR: Could I get into that a little later?

MR. NUTTER: All right.

MR. WINDFOHR: I was on the derrick floor when the pay was being drilled, and when the wells were completed.

THE WITNESS: I might add that ratios do not appear to be following a logical pattern that one might try to correlate with the structure. In other words, if you are trying to make a ratio down structure, which is the normal thing, it does not seem to be following that pattern.

Q (By Mr. Nutter) There is no geological evidence on the structure which would correlate with the GORs of the two

wells?

A That is right.

MR. NUTTER: Thank you.

EXAMINER UTZ: Are there any other questions of the witness?

If not, the witness may be excused.

(Witness excused.)

R. F. WINDFOHR,

called as a witness, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WATSON:

Q Mr. Windfohr, would you state your name?

A R. F. Windfohr, Nash, Windfohr & Brown. Our office is located in Fort Worth.

Q Are you the managing partner for Nash, Windfohr & Brown?

A Yes.

Q How many years have you been engaged in the oil business?

A Nearly forty.

Q About how many wells have you drilled?

A Maybe a thousand.

Q How many wells do you have there in Eddy County?

A 63.

Q The two wells in question are the only wells in this area which are producing from the Abo Formation?

A Right.

Q Were you present when these wells were drilled?

A Yes, sir.

Q You were actually there?

A Yes.

Q By order of the Commission in Case No. R2044, the south half of Section 24 has been designated as the Jackson-Abo Pool. Who owns the oil-gas lease interests in the Jackson-Abo Pool which covers the south half of Section 24?

A We do, not only the south half, but we own the north 240 of the east half of Section 23 immediately adjoining Section 24 on the west. We have about 840 acres in the Abo trend, so-called, but at this point there are only two wells in the field.

Q Will you state, please, the information obtained in drilling these two wells as to the formations and the completions and the amount of gas-oil encountered?

A In order to relate 23B to 22, I would like to go into 22 first. 22 is a normal GOR well, with a thin section with no free gas, and the well has behaved very well. It produces 85 barrels a day, slightly lower than its allowable on a 10/64ths choke, with a GOR of about 1350. The top pressure was from 525 to 575, makes no water, and has never had a gas problem. The top pressure has stood for the last three months, has not changed at

all. Well No. 23B is 1500 feet away and some 500 feet southwest through 22B. A look at the electric log and the samples would suggest that 23B is in another county instead of only 1500 feet away. The electric log on 22B shows shale breaks all through the porous section of the reef; 23B is clean of shale. 23B was run 200 feet low to 22B on top of the Abo Formation itself. It ran some 30-odd feet low on top of the porousity of the reef. Notwithstanding that it's a much lower GOR well. Drill stem test No. 2 on the well showed 17 barrels and a GOR of 10,000 to 1. The next drill stem test showed 22 barrels an hour and about a barrel of water in the drill pipe. We cased the well, putting the float collar which is at the top of the shoe joint opposite the oil-water contact. We still do not know whether there is a water drive in this quarter. There is a very effective one about two miles east of us in the Sinclair Pool. We were very careful in cementing the well to make sure that we got not only a shut-off of water but a shut-off of gas. Notwithstanding, 23B is considerably lower than 22B. The well tried to blow out at 6948, indicating that we had a bunch of gas at that point. We had not drill stem tested that section. The blow-out came about in this fashion: We drilled the well with an oil base mud and unconsciously allowed that mud to get a little thin of bayroid. Then we ran an Eastman survey on the well. In order to do that, you make a trip out of the hole, which is three hours, you make a very slow trip in and out of the hole with the Eastman tool, which is seven

hours, and you have, say, three hours getting back to 7,000 feet with the bit, and for some 12 or 13 hours we did not circulate the hole. When we began circulating we began to get gas at the top of the hole, which we thought was trip gas.

Actually, at one point, when we shut the blow-out preventer, the well was making more fluid than we were able to pull with the pump. So, before running pipe, cement, we circulated for 6 hours with 10.2 pounds mud. We had the well absolutely quiet and got a shut-off of the well and the gas. We perforated the well at 6970 to 84 so that the top of those perforations was lower than the bottom of the perforations in the normal GOR offset by some 20 feet.

Notwithstanding that, the conditions showed a GOR of around 7,000 to 1. I have a chart on the GOR taken on June 6.

EXAMINER UTZ: That was 7,000 to 1?

THE WITNESS: Roughly. This was the first GOR test that we took. We kept a record of it, and it shows 6811 to 1, with a tubing pressure of 1100 pounds on the 12/64ths choke.

Contrary to the performance in the Jackson 22B, this well began to be bad news. We got a fast decline in volume of both gas and oil, and also a fast decline in top hole pressure. Our next GOR was taken on August 22nd, just about the date of this application -- a few days before the date of this application -- and the GOR had dropped to 4212 with a tubing pressure of 475 on the same size choke. It was based on that GOR that we

applied for 4,000 to 1. We have just completed, and I have filed with the Commission at Artesia, a GOR on this same well of 2261 to 1. The tubing pressure now dropped to 225 to 250 pounds. Production is 60 1/2 barrels, and the choke is now 14/64ths. That seems to be today's rate of production, the ideal at which to produce this well. We can lower the size of the choke and increase the GOR to 5 or 6,000 to 1. If we open the choke, the well doesn't want to flow. This well has produced less than 5,000 barrels oil, and I have no doubt that within the next few weeks, certainly not more than the next few months, unless the well steadies in pressure -- and I don't think it will -- we will have to re-work it. I can't tell you why a front reef well, lower in the sub-surface than the back reef well, should have a much higher GOR than the back reef well; I don't know. I do know that if we have to re-work the well we will get another high GOR. We have no control over where the acid goes since the pressure is equal and opposite in all directions. It can go any place, and in this instance it did not go down. We have perforated this well as low as we dare perforate. We are in the bottom of our perforations, within 13 feet of known water, drill stem test water. There can't be any question where that water came from. We drilled it with oil base mud which contained no water. No water was ever on that pay at any time when test No. 3 was taken. All we can do, if we have to re-work it, is to re-acidize the present perforations.

Now, the tragedies of thin sections in the Abo Reef wells is the overuse of acid. That's how Sinclair got into trouble in the Abo, and their average production per well was only about 30 barrels. They taught us a good thing. They started with slots of 750 to 1500 gallons. When you're trying to skim oil off water, you have to have your tubing pretty empty by the time that acid gets out of the tube or it's gone and you have no control. We almost babied this thing. I used a hundred gallon the first time, and then a hundred and fifty gallons without getting a breakdown, and finally got a break with two hundred and fifty gallons. If we re-acidize it, we will again use two hundred and fifty gallons. Apparently that first acid went upward, and it didn't go laterally. On our own drill stem test we didn't get anything but a normal GOR in this well. It didn't get up in the big gas. It was there when the drill stem test was taken, and there was some 4,000,000 feet on a three-quarter inch bottom hole choke.

We badly need this 4,000 to 1 -- not at the moment, although two weeks ago we did -- but I'm sure we may need six or seven. I don't want to produce that much gas. I am perfectly content with a 4,000-foot to 1 ratio. We have produced 5,000,000 barrels oil out of the San Andres on the north part of this lease, and we have produced --

With regard to the ultimate recovery, I would like to do the same here. These two wells, or the first one which was

the only one run in at that time, was grouped with the Cedar Lake Field to the east, and since that field is just below 7,000, we were given an 82-barrel allowable. The Commission at Artesia asked us not to include the Cedar Lake Field, to put in six or seven thousand foot group, undesignated at that time, so that our allowable would be 20 barrels less. We are not trying to make a fast buck off the lease. We would like to produce it in the only fashion we think it can be produced. We don't want an uneconomic operation out of a hundred-thousand-dollar well. I think we can live with 4,000.

I have plotted logs here, showing formations, those being local logs, and show the perforations; and just an eyeball glance will prove to you that my statement is correct, that our perforations in the high GOR well are considerably lower than in the sub-surface well.

Would you like me to bring this up to you?

EXAMINER UTZ: Yes.

A (Continuing) Sea level on one of these wells is 3702, and on the other one, 3676. I added 3,000 feet to each elevation to give us a sea level equivalent in the zone that we are looking at. This is 22 and this is 23; this is sea level. You will notice that this well ran on top of the Abo Formation here at 1500 feet apart. This is porousitv in the reef, and it is some 30 feet lower here -- 6918, 26 feet lower. Now, here are the perforations in this well at 6970, 84; and in this well, 6954

to 80, but 80 in that well transposes to about 40 in this well, so that you can see that the top of the perforations in the high GOR well is exactly 10 feet below the bottom.

We tested this well at 6920. The records submitted in Artesia will show 6820 to 74, right there. That's where we got the big GOR well. This is a normal GOR from 74 to 97. That's water; one barrel. We perforated right on the water. There is no reason that I can give you why we wound up with a high GOR. The acid must have gone up the hole somewhere. It certainly didn't get into this big gas, which is right in here. It wouldn't have had to decline.

EXAMINER UTZ: Was there a good cement job?

THE WITNESS: Yes, sir. We not only circulated the well, loaded the hole with 10.2-pound mud, but we were very, very careful on no account to have the well completely quiet. Notice the good, clean section in the reef here, those shale breaks in the reef. I perforated in a real swell spot, into this section here. That well made 40 barrels an hour on two drill stem tests, 17 to 22, and on the second, 2600 feet of oil in the pipe for a total of 40 barrels an hour, and I'm having a hard time to get 60 barrels on a decent GOR, and then I have a declining pressure, so I have got to re-work it. I don't want to come up here and bother you every twenty minutes. I don't think I can miss it. That seems to be the characteristic of the well. The big gas, 4,000,000, by the way, is below the known oil pay in this well.

We had oil here. This is where it was perforated. There was no gas in this hole at all. The samples are nice and brown, highly fluorescent, and there is no evidence of gas at all, and everything about the hole is gas.

Q What has been the approximate cost of these two wells?

A About $100,000 each.

Q You feel that you're going to have to do some re-working operations on this 23-B?

A In all likelihood, if the well will just steady, even at a hundred pounds flowing pressure, we will be home free, but we have a fast rate of decline in that floor pressure.

Q Are you selling the gas from the well?

A It's all going to Phillips Petroleum Company.

Q Are there any other operators in this Jackson-Abo Field?

A No, sir.

Q Will there be any likelihood that any other operators will be in there?

A No. The Commission already determined that point, but to cover it briefly, the reef has been drilled at almost every location, north and south, and some to the west of us. There is not a Chinaman's chance that these two wells of ours will ever tie into the Ashton-Fair wells, which are three miles west of us. The Chambers-Kennedy well was on the crest of the reef and got porousity right at the oil-water contact. East of us there is a

channel that may be two or three hundred feet deep, but we are absolutely not going to tie into anything west of us. There are no remaining locations to be drilled to the east of us. I think, though, there is a chance that we'll tie into the Sinclair production.

If you disregard front and back reef and remember that this 23-B which ran 200 feet lower on the top of the Abo and some 30 feet on top of the porousity and is substantially straight east of 22-B, you will see there has got to be a ditch some place between us and Sinclair's Cedar Lake.

Q The logical conclusion, then, is that no other operators can be adversely affected by granting the exception to the GOR rule?

A That's correct.

Q Do you have anything further you want to add at this time?

A No, but I'll be glad to.

EXAMINER UTZ: Are there any questions of Mr. Windfohr?

EXAMINATION

BY MR. NUTTER:

Q Mr. Windfohr, you detailed the trend of the GOR on the No. 23 Well and stated there has not been any trend on the GOR on the 22-B?

A No, sir. On the sample log of 22-B there has never been a GOR problem. The GOR has always been what I would call

fair, from thirteen to fifteen hundred to one. I hope there's not a water drive. There was a top hole pressure which declined to 525 to 545 in a week and then leveled off, and the production hasn't varied a barrel in four months. It will run from 80 to 88.

Q No. 22 was the second completed?

A Yes.

Q How much production do you have out of it?

A Something less than 5,000 barrels.

Q How much production has come out of the No. 23?

A To October 1st it produced something less than 17,000 barrels.

Q Flooring pressure has been relatively constant on the 22?

A Yes, sir. It looks like a real oil well.

Q And the other one declined to less than a hundred to 225?

A Yes.

Q Have you taken any bottom hole pressure?

A No. There was no fluid remaining in the hole floor. It was relatively steady.

Q The Abo Reef is permeable, is it not?

A Yes, sir. And that brings up a real interesting point. The Abo Reef is highly fractured and highly fugular. Unfortunately, when we cement through the pay you fill all of these fractures and fugs with cement, and after it passes the fluid in the pipe,

you can't get beyond the cement. If you did you'd have a natural producer. It's a real problem to skim the oil off the top, since you have no control over acid.

Q No bottom hole pressure has been taken? You don't know what the relative buildup is?

A In the one well we have a high flooring pressure, and the other one is low. Even the highest well in the sub-surface structure has a normal GOR, and the lowest has a high GOR. I don't think the position on the reef has any bearing on it. I don't think the present state of knowledge out there of any of us can make a guess. As soon as I get a little better pay outlook and a little better record of performance on 23-B, I propose to drill another well. I'm darn sure going to put that off until I get 24-B on its feet and a decent GOR.

Q Is there any free gas present in the upper part of the reef in this area?

A I don't know. All I know about the area is what happened in these two wells. We have oil with no gas in the first well as high as 6830, which transposes to 100, over 100 feet above the free gas in the second well, 23-B.

Q The drill stem test on the low-ratio well did encounter a rather high ratio?

A No. The drill stem test on 22-B was normal. There was oil a hundred feet up the hole from where we perforated. I don't know -- I can't tell you why the high well has a low GOR

and the low well a high one; I don't know.

Q On the first drill stem test on No. 23 it made 17 barrels, 4,000,000 cubic feet? There was some drilling fluid and higher than the other two?

A Yes. The first one was down to 68, 6920. There was nothing in there. Then we took a drill stem test from 6920 to 6974 and received 17 barrels of oil an hour and just a little more than 4,000,000 feet of gas per day.

Q The third test, 22 barrels oil, 1 barrel water. Where was that?

A In the bottom of the drill stem test.

Q How much gas?

A 7734 cubic feet. It wasn't too bad because, you see, 22 barrels an hour is approximately 500 barrels a day with a GOR of 1500. That's where we perforated.

Q Have you calculated the ratio in the lower drill stem test?

A Yes.

Q What was the interval?

A The third one?

Q Yes.

A 6970 to 6998.

Q That was the actual perforated interval, 6970 to 84?

A That's right, so you can see we took the 4 feet of bottom, the bottom four feet and went down 77 feet into No. 3. We

had no right to expect anything but a normal GOR.

Q Is No. 23 making any water at the present time?

A I think not. Let me amplify that. We have been able to catch it in the separator, never in the tank, with a quart and occasionally as much as a gallon of water a day. I had a hard time to figure out where that water was coming from. But usually, if we had a water drive we wouldn't have a decline in pressure. It seems that while there was no water on that day when we drilled it, when we went to acidize we broke the whole darn casing on the packer, and we were making a little oil, so we had to kill the well with water, and there is water back of that tubing. Now, there is a thousand pounds of top hole pressure on that water back on top of the packer, and there is water in the annulus between the tubing and casing. As I told my boy yesterday, the superintendent out there, to let that pressure bleed, to bleed that pressure down to about 300 pounds.

Q That's water that's draining out of the annulus?

A Around a fault in a packer. There is nothing that can be done about analyzing that water. It is highly sulphur. It's sulphur water. It might have been spring water when it went in there, but it came out sulphur water. I think we'll be through with it in a few days.

Q What is the pipe setting on No. 23?

A 7,028.

Q How much cement was used on that string of pipe?

A Oh, too damned much. 700 sacks behind the 8 5/8, and 200 -- then we had to set 7-inch. We lost the two joints of surface pipe. We got it straight in the hole and had to run 7-inch through it. Also, there were 275 sacks back of the 4 1/2, and that filled us to the bottom of the cellar. Both strings are cemented through the bottom of the cellar.

Q So, you actually got circulation?

A We ran a DV tool and got a sample of 3200. Below the sand we ran a DV test in order to be sure we had that cemented.

Q Has any log been run on this one?

A No. I have never run one in my life. I don't know what it is.

MR. NUTTER: I believe that's all. Thank you.

A (Continuing) We did, however, for the cement that would be required not only to fill the shoe joint. We didn't drill the collar. We used latex on the cement that would be required to fill the shoe joint and to cover all of the Abo formation. That gives a much better setup, and the cement will not fracture with perforating. We went into the string in order to be sure of the cement job on this hole, of circulating, weighting our mud to 10.2, circulating it for 6 hours before we ever started the pipe in the hole, and then using base cement, we could put it in the hole.

MR. NUTTER: Is it your opinion, Mr. Windfohr, that there is communication between those lower perforations and the

free gas here in the structure, that this communication is in the reservoir itself rather than in the hole or throughout the cement?

THE WITNESS: Not through the cement. In my judgment, I can't tell you what happened two and a half miles underground. It could be through the reservoir, but we can't be tied into that free gas. We wouldn't have lost the body. We may have tied into an isolated pocket of gas. I can't tell you, but it can't be into that big gas because, as I see it, if we were tied into that we would still have a 10,000 to 1 GOR.

MR. NUTTER: Is that 'round the place where you almost had the blow-out?

THE WITNESS: That's right. We found it only because we were out of the hole for twelve or fourteen hours, and it began to thin down our oil-base mud. I think that the free gas in this hole comes, according to my interpretation of the electric log, perhaps as high as 6930.

MR. NUTTER: Thank you.

THE WITNESS: Maybe 25 to 35.

EXAMINER UTZ: Are there any other questions of the witness?

RE-DIRECT EXAMINATION

BY MR. WATSON:

Q Mr. Windfohr, in this 23-B well, do you think you have a faulty cement job?

A No. I hope I have covered that. I think it's a million

to one.

Q Why do you conclude that you do not have a faulty cement job there?

A Well, for God's sake --

Q What evidence, facts, do you rely on to base that opinion that you do not have a faulty cement job?

A We weighted the mud to 10.2 and circulated for six hours. We did everything we could to keep the well completely quiet when we cemented it. We used the best cement we could find. We loaded the latex in the portion of the cement that's required to fill the shoe joint and all of the Abo Formation, not only this pay, but the entire formation. If we had done a bad cement job when we perforated, we would have had gas. We had nothing when we perforated. We went through the cement block. We had a barrel or two of oil and 50,000 of gas. That's what happened on 22-B. You can't get through the cement block with perforations if we had a bad cement job. It still took 5100 pounds to break it down with acid. The acid, itself, hasn't gone into the big gas, or we would decrease in volume. Maybe when I re-acidize it, I won't have a high GOR, but I hope you'll grant our application. This well has been more trouble to us than the other 62 on the lease. We had to come to you to get an unorthodox location. Now, we are back asking for a GOR of 4,000 to 1. We have got to re-work this well. Two weeks ago we badly needed it.

EXAMINER UTZ: The back gas that you spoke of, you feel

a gas cap is on the reservoir?

A I am not on the reservoir. We didn't have it in the other well. It may be on this side of the reef. I can't tell you why it should be, but there is definitely a gas cap in this well. We drilled 54 feet of hole in 6920 to 74, and with it we got 4,000,000 feet of gas, and we got 17 barrels. I think the gas is free gas on top of this oil pay. I don't believe it's true of the reservoir, no, sir.

EXAMINER UTZ: Do you have any plans for re-working the well?

THE WITNESS: None. If the well stops flowing, then I have got to go to work. So long as the well is making its allowable, we will leave it alone. I can't believe that it will be long unless something happens to the well.

EXAMINER UTZ: You actually have no need for more than 2,000 to 1?

A We are receiving a slight penalty now, something over 10%. We need this application very badly. I suspect we will need it in the coming weeks, certainly not more than a couple of months. I can't make it level off at 150. It might do it, but it doesn't make sense to me. In producing only 5,000 barrels of oil, the GOR drops from 7,000, and pressure drops 1100 to 200.

EXAMINER UTZ: Are there any other questions of the witness?

The witness may be excused.

(Witness excused.)

EXAMINER UTZ: Are there any other statements to be made in this case?

The case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF SAN JUAN)

I, THOMAS F. HORNE, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

T. Horne
NOTARY PUBLIC

My Commission Expires:

10-2-65

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2395, heard by me on 10-4, 1961.

Examiner
New Mexico Oil Conservation Commission

NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing - Elvis A. Utz

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE October 4, 1961 TIME: 9 A.M.

NAME:	REPRESENTING:	LOCATION:
Neil B. Watson atty	Neal, Windfohr & Brown	Artesia N.M.
R.F. Windfohr	Neal, Windfohr & Brown	Ft. Worth Texas
Niles Sheldon		Artesia
[illegible] Fink	Reading & Bates	Tulsa, Okla
D.L. Potter	Reading & Bates Inc	Tulsa, Okla.
P. W. Huber	Shell Oil Co	Roswell, N.M.
[illegible]	[illegible]	
[illegible]	Shell	S.F.
Guy Buell	Pan Am	Fort Worth
G.W. King	" "	" "
R.M. Anderson	Sinclair	Midland
Jason Kellahin	Kellahin & Fox	Santa Fe
V T Lyon	[illegible]	[illegible]
D. I. Indermieden	Pan Am	Lubbock
C. R. Black	Texaco Inc	Midland, Texas

NEW MEXICO OIL CONSERVATION COMMISSION

Examiner hearing - Elvis A. Utz

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE October 4, 1961 TIME: 9 A.M.

NAME:	REPRESENTING:	LOCATION:
Booker Kelly	Texaco	S F
S.H. Cavin	Humble O & G Co.	Roswell, N.M.
J.R. McMinn	" "	" "