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mill Exhibits, Etc.

DEFORE THE OIL COMMENSATION CONCESSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE REALING CALLED IN THE OIL COMMENSATION CONCESSION OF HEM MEXICO FOR THE PURPOSE OF COMMINERING:

> CASE No. 2270 Order No. R-1976

APPLICATION OF PAN AMERICAN PRINCIPUM CORPORATION FOR AN OIL-OIL DUAL COMPLETION (CON-VENTIONAL), EDDY COUNTY, NEW MEXICO.

ORDER OF THE COUNTESTON

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on May 4, 1961, at Santa Pe, New Mexico, before Daniel S. Matter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter reserved to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

MOW, on this 17th day of May, 1961, the Commission, a quorum being present, having considered the application, the evidence address, and the recommendations of the Emminer, Daniel S. Matter, and being fully advised in the premises,

FIRES:

- (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, fan American Petroleum Corporation, seeks authorization to complete its Greenwood Unit Well No. 3, located in Unit N. Section 27, Younghip 18 South, Range 31 Rast, MCPM, Eddy County, New Mexico, as a dual completion (conventional), in such a manner as to permit the production of oil from an undesignated Nous Springs pool and the production of oil from an undesignated Wolfsamp pool through parallel strings of 2-inch tubing.
- (3) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.
- (4) That approval of the subject application will meither cause waste nor impair correlative rights.

IT IS THERETORE OFFERED:

That the applicant, Pan American Petroleum Corporation, is hereby authorised to complete its Greenwood Unit Well No. 3,

-2-CASE No. 2270 Order No. R-1976

located in Unit H. Section 27, Township 18 South, Range 31 Bast, Mars, Midy County, New Munico, as a dual completion (conventional), in such a manner as to permit the production of all from an designated None Springs pool and the production of all from an undesignated Wolfousp pool through parallel strings of 2-inch tubing.

PROVIDED HOWEVER. That the applicant shall complete, operate, and produce said well in accordance with the provisions of Section V. Rule 112-A.

PROVIDED FURTHER, That the applicant shall take packerleakage tests upon completion and annually thereafter, or as required by the Secretary-Director of the Commission.

IT IS PURTIER CREATED:

That jurisdiction of this cause is retained for the entry of such further orders as the Commission may does necessary.

BOME at Santa Fe, New Mexico, on the day and year hereinabove designated.

> STATE OF HEW MEXICO OIL COMMENVATION COMMISSION

MENTH L. MECHEM, Chairman

Estvallen

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

THE REPORT OF THE PARTY OF THE

SOVERNOR EDWIN L. MECHEM CHAIRHAN

State of New Wexico Oil Conservation Commission

LAND COMMISSIONER E. S. JOHNNY WALKER MEMBER



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

P. O. BOX 87! SANTA FE May 18, 1961

	ORDER NO. 1976
Mr. Guy Buell Pan American Petroleum Corporation P. O. Box 1410 Fort Worth, Texas	APPLICANT: Pan American Petroleum Corp.

Dear Sir:

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

A. L. PORTER, Jr.
Secretary-Director

Carbon copy of order also sent to:

Hobbs OCC______
Artesia OCC____
Aztec OCC___
OTHER_____

CLASS OF SERVICE

WESTERN UNION

TELEGRAM

W. P. MARSHALL, Pennseoure
in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at po

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L RWAGGE PD=ROSWELL NMEX 3 1127A MST= OIL CONSERVATION CONNISSION=

STATE LAND OFFICE BLDG SANIA FE NMEX=

RET CASES NO. 2270, 2271, 2272 IN CONFIRMATION OF OUR LETTER APPEARANCE WE WISH TO ADVISE THAT WE ARE LOCAL COUNSEL FOR PAN AMERICAN PETROLEUM CORPORATION IN THE CAPITONED CASES AND THAT GUY BUELL OF THE TEXAS BAR WILL BE ASSOCIATED WITH US FOR THE PRESENTATION OF THE CASES=

ATTOOD AND MACNE==

2270 2271 2272: .

PAN AMERICAN PETROLEUM CORPORATION

P. O. Box 268
Labbook, Texas
April 14, 1961

File: JET-4125-986.510.1

Subject: Application for Dual Completion
Pan American Petroleum Corporation's
Greenwood Unit No. 3, Undesignated

Mr. A. L. Porter, Jr. Secretary and Director New Mexico Oil Conservation Commission P. O. Box 871 Santa Fe, New Mexico

Dear Sir:

In accordance with the provisions of New Mexico Oil Conservation Commission's statewide Rule 112-A (multiple completions), we enclose in triplicate our application for permission to dually complete the Pan American Greenwood Unit No. 3 in the Undesignated Bone Springs and Wolfcamp Fields. Attached to the application and as supporting evidence are a diagrammatic sketch showing the mechanical details of this completion, a plat showing the location of all wells on this lease and all pertinent offsetting wells and leases, and an electrical log of the subject well with the perforated intervals indicated thereon.

Our files do not indicate that any wells have been dually completed in these zones within one mile of the proposed dual completion. Therefore, we respectfully request that you schedule this matter for public hearing on an early docket.

Yours very truly,

Meil S. Whitmore District Superintendent

Bone Springs and Wolfcamp Pool,

Eddy County, New Mexico

JEY:ak Attachmenti NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

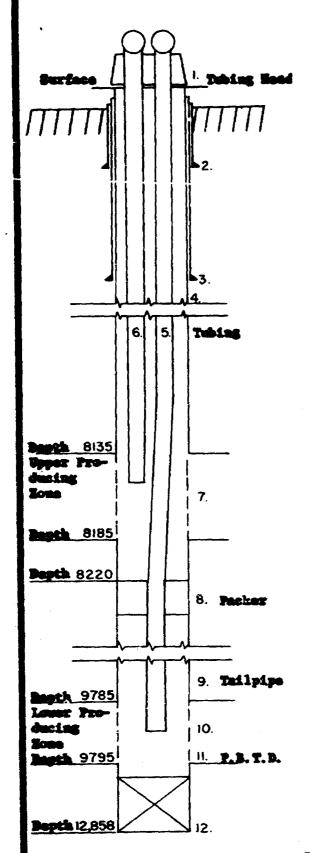
7-3-58

APPLICATION FOR DUAL COMPLETION

Undesignated rator Pan American Pe		County Eddy	Date April 12, 1961
	r	Lease	Well No.
	stroleum Corp.	Greenwood Unit	3
ation Unit	Section	Township	Range
Veli B		27 18-	
Has the New Mexico Oil	Conservation Commissi	ion heretofore authorized the dual	l completion of a well in these same pools or in the same
zones within one mile of	the subject well? YF	ES NO T	
		rder No; O	perator, Lease, and well from
The following facts are	submitted:	Upper Zone	Lower Zone
o. Name of reservoir	B	one Springs	Wolfcamp
b. Top and Bottom of			
Pay Section	1		
(Perforations)		135'-8185'	97851-97951
e. Type of production (011	Oil
d. Method of Production			
(Flowing or Artific The following are attach		lowing	Flowing
been furnished Yes d. Electrical lo	d copies of the applicat og of the well or other a such log is not available	npletion from each offset operator ion.* cceptable log with tops and botto at the time application is filed,	oms of producing zones and intervals of perforation indication in shall be submitted as provided by Rule 112-A.)
		this well is located together with	h their correct mailing address.
List all offset operators Not applicable.			pplication? YES NO If answer is yes, give o
Were all operators listed of such notification	d in Item 5 above notifi undersigned, state that (company), and	ed and furnished a copy of this a I am the District Superi that I am authorized by said com	pplication? YES NO If answer is yes, give on the Pan American Petroleum pany to make this report; and that this report was prepared and complete to the best of my knowledge.

producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Case 22.70



Icase and Well No. <u>Greenmed Bait No. 3</u>

Pield <u>Spinsted Welfness & Seco Springs</u>

State <u>New Yorkse</u>

BUAL COMPLETION ROVIPMENT			
ITEM	MESCRIPTION, MAKE AND SIZE		
1.	Dual tubing head		
2.	Surface casing: 16" 42.80 CSA 691' with 1500 eacks.		
3.	Intermediate casing: 10 3/4" 45.5# CBA 6385' with 2011 eacks.		
4.	Oil ensing: 7" 23 & 260 CSA 12,858' with 400 macks. Top cament 5200'.		
3. V	Tubing: 2" 4.7# EUR landed in packer set at 8220".		
6. V	Tubing 2" 4.70 EUE with turned down collers lended at 8162', swinging.		
7.	Oppor Perforations: Bone Springs perforate from \$135' to \$285'.		
8.	Packer: Beker Hodel "9" drillable packer set at 8220'.		
9.	Tailpipe: 2" 4.70 EUR landed at 9765'		
10.	Lower Perforations: Welfcomp perforated from 9785' to 9795'.		
11.	Flug back total depth: 9800°		
12.	Total depth: 12,858°		

DUAL COMPLETION SKETCH

PAN AMERICAN PETROLEUM CORPORATION

ATWOOD & MALONE

JEFF D.ATWÖOD (1883-1980)
ROSS L.MALONE
CHARLES F. NALONE
E.KIRK NEWMAN
RUSSELL D. MANN
RUSSELL D. MANN
BOL A.COOTER
BOL A.COOTER

TELEPHONE MAIN 2-6221
POSWELL PETROLEUM BUILDING
ROSWELL, NEW MEXICO

Oil Conservation Commission Post Office Box 871 Santa Fe, New Mexico

RE: Case No. 2270 before the Oil Conservation Commission of the State of New Mexico

Gentlemen:

We are local counsel for Pan American Petroleum Corporation and as such wish to enter our appearance in the captioned case. Pan American will also be represented by Guy Buell, a member of the Texas Bar, and a company employee. The actual presentation for Pan American will be made by Mr. Buell.

Very truly yours,

ATWOOD & MALONE

BY: Ekink News

cc: Mr. Guy Buell

EKN: sam

PAN AMERICAN PETROLEUM CORPORATION
APPLICATION FOR PERMISSION FOR AN OIL-OIL
BUAL PRODUCER IN UNBESIGNATED BONE SPRINGS
AND MOLECAMP POOLS AT THE GREENWOOD UNIT NO. 3
LOGATED IN UNIT H, SEC. 27, T-18-8, E-31-E,
NEW MEXICO OIL CONSERVATION CONSISSION
EXAMINER HEARING CASE NO. 2270
NAY 4, 1961

DISCUSSION

Pan American Petroleum Corporation respectfully requests that the New Mexico Oil Conservation Commission grant permission to dually complete its Greenwood Unit No. 3 as an oil-oil dual in Undesignated Bone Springs and Wolfcamp Pools in Middy County, New Mexico.

The Pan American Greenwood Unit No. 3 was originally completed as a Shugart Siluro-Bevonian pool gas producer on July 29, 1958. Initial production was 1200 MCF X 79 barrals of 59° condensate in 24 hours. The initial bottom hole pressure at that time was 5200 psi at a datum plane of -8341° subsea. Average production of the Bevonian gas zone in Becember, 1960, was approximately 900 MCF and 60 barrels of condensate per producing day.

In January, 1960, the Devonian some was temporarily shandoned in the Greenwood Unit No. 3 and the well was recompleted as a dual producer in Undesignated Bone Springs and Wolfcamp Pools. Initial flowing potential of the Bone Springs on April 6, 1961, was 238 barrels of 41° API gravity oil and no water in 24 hours with a GOR of 755. Initial flowing potential of the Wolfcamp on February 28, 1961, was 167 barrels of 41.6° API gravity oil plus 17 barrels of acid water in 20 hours with a GOR of 1166. The Bone Springs is now shut-in pending the results of this bearing.

Attachment I, a plat of the area, shows the location of the Greenwood Unit No. 3 and points out by means of an arrow the well under consideration.

Attachment II consists of a diagrammatic sketch showing the mechanical details of this dual installation. Each pool will be produced through a separate naminal 2" I.D. tubing string. The long tubing string (Wolfcamp) is latched into the Baker Model "B" Packer at 8220° and the short string is hanging free from the dual tubing head.

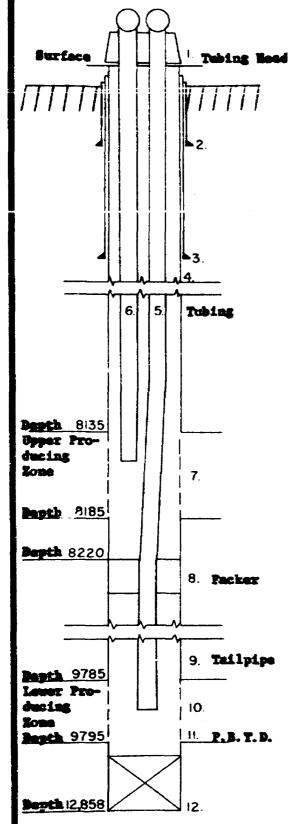
It is believed that this mechanical installation is well suited to safely and efficiently produce Bone Springs crude and Holfcamp crude from this well bore through separate tubing strings.

Attachment III is a log showing Bone Springs and Wolfcamp intervals in the Greenwood Unit No. 3.

Attachment IV presents a copy of Pan American's application for dual completion dated April 14, 1961. Copies of this application were originally furnished the Commission by Pan American's letter of April 14, 1961, File: JET-4125-986.510.1.

As evidence of vertical separation between the Bone Springs and Wolfcamp zone please refer to Attachment III, a log of the well. As can be seen on this log, thick impermeable shales are indicated in several sections between the producing intervals. In addition, sample analysis indicate the remaining material to be primarily impermeable limestone.

PAR AMERICAN PETROLEUM CORPORATION
APPLICATION FOR PERMISSION FOR AN OIL-OIL
BUAL PRODUCER IN UNDESIGNATED BONE SPRINGS
AND MOLECAMP POOLS AT THE GREENWOOD UNIT NO. 3
LOGATED IN UNIT H, SEC. 27, T-18-8, R-31-E,
NEW MEXICO OIL CONSERVATION CONSISSION
EXAMINER HEARING CASE NO. 2270
NAY 4, 1961



Lease and Well No. Greenwood Unit No. 3 Field Underlanated Welfcom & Bone Engines State New Maxico

DUAL COMPLETION EQUIPMENT			
ITEM	DESCRIPTION, MAKE AND SIZE		
1.	Dual tubing head		
2.	Surface casing: 16" 42.8# CSA 691' with 1500 macks.		
3.	Intermediate casing: 10 3/4" 45.5# CBA 6385" with 2011 secks.		
4.	Oil casing: 7" 23 & 26# CBA 12,858* with 400 sacks. Top coment 5200*.		
5.	√Tubing: 2" 4.7# EUE landed in packer set at 8220°.		
6.	Tubing 2" 4.7# EUE with turned down collars landed at 8162', swinging.		
7.	Upper Perforations: Bone Springs perforate from 8135' to 8185'.		
8.	Packer: Baker Model "D" drillable packer set at 8220".		
9.	√ Tailpipe: 2" 4.7# EUE landed at 9765'		
10.	Lower Perforations: Wolfcamp perforated from 9785' to 9795'.		
11.	Flug back total depth: 9800°		
12.	Total depth: 12,858		

DUAL COMPLETION SKETCH

PAN AMERICAN PETROLEUM CORPORATION

ATTACHMENT II

7-3-58

SANTA FE, NEW MEXICO

APPLICATION FOR DUAL COMPLETION

Field Name	Cou	inty	''ate
Operator Dades ignated	Leave	Eddy	April 12, 1961
Pen American Petrology Corp.		that t	3
location init	etion cwis	18-8	Range 31-8
ot Well	27		
Has the New Mexico Oil Conservation C		d the local million	- Statement in these same period to the the
zones within one mile of the subject we		Operator ce	and Wall So
. If answer is yes, identify one such inst.	ance: Order No.	Operior i.e	ANY THE WALL SHE
The foll wing facts are submitted:	Upper Jose		Lower fone
		<u> </u>	Wolfcom
Name of reservoir Dop and Bottom of Fay Section	Bone Springs		additional and a second
(Ferforations)	8135*-8185*		9785'-9795'
c. Type of production (Oil or Gas)	011		011
d. Method & Production	The second secon		
(Flowing or Artificial Lift)	Flowing		Flowing
. The following are attached. (Please ma	ark YES or NOV		
thereon. (If such log is not a	vailable at the time application	is filed, it shall co	ucine nones and intervals of perforation indicated supported as provided by Rule 112-A.)
Bot Applicable.	Separation of the Separation o	As 4 - May permitte the control of t	
		•	•
		•	
. Were all operators listed in Item 5 abov	e parified and furnished a co.	of this application	YES NO If answer is yes, give date
of such notification		or this approximation.	1700 1700 E. T. H. Mildwell 13 year, give unite
	The second secon		
CERTIFICATE: I, the undersigned, sta	ate that I am the Bistrict	Auperintenden:	t of the Pan American Petroleum
			ke this report; and that this report was prepared
nder my supervision and direction and tha	t the facts stated therein are tru	Ly, correct and comp	long to the rest of my incomedge.
		Herla	Mulmore
		ell 8. Mitmo	Se Signatue
Should waivers from all offset open	tators not accompany an applica	ition i a administrati	ive approval, the New Mexico Oil Conservation
Commission will hold the applicati	ion for a period of twenty (20) di	ays from date of rec	eipt b, the Commission's Santa Fe office. If,
OTE: If the proposed dual completion wi	Il result in an unorthodox well i	iocation and/or a no	ta fe of:. e, the application will then be processe prestandary proration unit in either or both of the
producing zones, men separate ap	plication for approval of the san		imultaneously with this application.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MAY 4, 1961

EXAMINER HEARING

IN THE MATTER OF:

CASE 2270

TRANSCRIPT OF HEARING

BEFORE THE OIL CONSERVATION COMMISSION SANTA FE, MEW MEXICO MAY 4, 1961

EXAMINER HEARING

IN THE MATTER OF:

CASE 2270 Application of Pan American Petroleum Corporation for an oil-dil dual completion. Applicant, in the above-styled cause, seeks) authorization to dually complete its Green-) wood Unit Well No. 3, located in Unit H, Section 27, Township 18 South, Range 31 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from an undesignated Bone Springs pool and the production of oil from an undesignated Wolfcamp pool through parallel strings of 2-inch tubing.

BEF CRE:

Daniel S. Nutter, Examiner.

PROCEEDINGS OF TRANSCRIPT

MR. NUTTER: We will take next Case 2270.

MR. MORRIS: Case 2270. Application of Pan American

Petroleum Corporation for an oil-oil dual completion.

MR. BUELL: Guy Buell for Pan American Petroleum Cor-

poration. We have one witness.

(Witness sworn)

MR. BUELL: By letter, the firm of Atwood & Malone of

Roswell, as resident counsel.



JAMES E. YORK,

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. BUELL:

- Mr. York, would you state your complete name, please, by whom you are employed, and in what capacity and at what location?
- James E. York. I am employed by Pan American Petroleum Corporation at Lubbock, Texas as a petroleum engineer.
- What is your educational background in petroleum engineering?
- A I was graduated from the University of Oklahoma with a Bachelor of Science degree in petroleum engineering in February, 1958.
 - Q What have you done since graduation?
- Since that time, I worked for Pan American in various production capacities.

MR. BUELL: Mr. Examiner, this case has been prepared in brochure form. All the pertinent data are in the brochure, which we will now offer as the Exhibit No. 1.

MR. NUTTER: This will be Exhibit No. 1 in this case.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification)

Q (By Mr. Buell) Mr. York, I will ask you, for the record



to briefly cover the more pertinent data included in your Exhibit No. 1.

A This Exhibit covers Pan American's request that permission be granted to dually complete its Greenwood Unit No. 3 as oil-oil dual in undesignated Bone Springs and Wolfcamp pools in Eddy County, New Mexico. The well is located in Unit H, Section 27, 18, 31, and is shown on the Attachment I by means of an arrow. It was temporarily abandoned in a producing Devonian gas zone in January, 1961, and recompleted first in the Wolfcamp and later in the Bone Springs.

Q Mr. York, are both of these formations above or more shallow than the Siluro-Devonian gas pay?

- A Yes, they are.
- Q Go right ahead.

A The IP of the Bone Springs was 238 barrels of 41 degree API gravity oil and no water in twenty-four hours. The IP of the Wolfcamp was 167 barrels of 41.6 degree API gravity oil in twenty hours. Now, Attachment II shows a diagrammatic sketch of the details of the completion. Each zone will be produced through a separate 2-inch I.D. tubing string. The long tubing string, which will be the Wolfcamp, will be latched into a Baker Model "D" Packer at 8220, and the short string is hanging free in the wellhead.

Attachment III is a log showing Bone Springs and Wolfcamp intervals in this well. As you can see, there's some 1700 feet of formation between Wolfcamp and Bone Springs perforations.

Attachment IV is a copy of Pan American's application for dual



completion furnished -- for convenience, it was originally furnished by letter on April 14, 1961.

- Mr. York, have packer leakage tests already been furnished to the Commission?
 - Yes. One has been run and furnished.
 - Are you familiar with the results of those tests? Q
 - Yes, I am.
 - Did they show complete separation of the two zones?
 - They showed very definitely there was no packer leakage.
 - In your opinion, will the approval of this request by Q the Commission serve conservation as well as protect the correlative rights of all parties of interest?
 - Yes, it will.
 - Do you have anything further you would like to add? Q
 - No.

That's all we have at this time, Mr. Examiner. MR. BUELL:

MR. MUTTER: Does anyone have any questions of Mr. York?

MR. MORRIS: Yes, sir, I do.

CROSS-EXAMINATION

BY MR. MORRIS:

Q Mr. York, are you familiar with the new rule that the Commission has proposed with reference to multiple completions?

I have not seen a copy of it, if that's what you mean. Has one been approved? I am familiar that there was some discussion or a case on nomenclature at the last statewide hearing.



I was just wondering if you had any comments with regard to that Rule, and with reference to the completion that you propose here, and how that would fit in with the Rule. If you haven't had a chance to study the Rule yet, why, I'll pass the question.

No, I have not seen the Rule.

MR. BUELL: Which Rule are you speaking of? Is that the one that Mr. Nutter proposed at the Hobbs statewide --

MR. MORRIS: Right.

BY MR. NUTTER:

- Q Mr. York, your brochure and your testimony indicated the gravity and GOR. Do you have a bottom hole pressure for the two zones?
- We have not been able to obtain a bottom hole pressure on the Wolfcamp. We have a drill stem test pressure .--
 - Well, if you have a drill stem test pressure...
- -- for the Bone Springs, which is the upper interval bottom hole pressure with a bomb of 2924 pounds, at minus 4450 subsea. A drill stem test pressure of the Wolfcamp was 4830 pounds, at minus 6113 subsea.
- Q The packer you are using to segregate the two zones is a Baker Model "D" packer?
 - Yes, it is.
- Is it of sufficient capacity to withstand that differential pressure between those two zones?
 - A Yes, it is.



Q Did the Devonian zone produce to depletion, or was it abandoned without having been produced?

It was temporarily abandoned. It was producing and had been producing prior to its abandonment. We are committed on this particular lease, our reserves are committed to sell, and we have another Devonian well that is producing Devonian gas. There was no loss of Devonian production.

- This well was making 60 barrels of distillate per day Q and approximately --
 - No, that's not the average production during its life. A
 - That's the average production in December 1960? Q
 - During December.
 - Q Was that its last month of production?
- Yes. That's during the producing day. It did not produce every day of that month.

MR. NUTTER: Any further questions of Mr. York? He may be excused.

(Witness excused)

M. MUTTER: Do you have anything further, Mr. Buell?

MR. BUELL: No, Mr. Examiner. That concludes our testimony.

MR. NUTTER: And Exhibit 1 will be admitted in the record in this case.

MR. BUELL: Right.

MR. NUTTER: Does anyone have anything further for Case



2270? We will take the case under advisement.

STATE OF NEW MEXICO)

COUNTY OF BERNALILLO)

I, ADA DEARNIEY, Court Reporter, in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in machine shorthand and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 8th day of May, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ida Dearnley NOTARY PUBLIC

My Commission expires:

June 19, 1963

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2270 heard by me on 52 4 19 64.

New Mexico Oil Conservation Commission