

BEFORE THE INDUSTRIAL COMMISSION

OF THE STATE OF NORTH DAKOTA

CASE 1004: ON A MOTION OF THE COMMISSION  
TO CONSIDER THE APPLICATION OF NORTH  
AMERICAN ROYALTIES, INC., FOR AN ORDER  
POOLING ALL INTERESTS IN THE DICKINSON-  
HEATH IN THE S½ OF SECTION 15, TOWNSHIP  
140 NORTH, RANGE 96 WEST, STARK COUNTY,  
NORTH DAKOTA

CASES NOS. 1004 and 1005  
ORDER NO. 1082

AND

CASE 1005: ON A MOTION OF THE COMMISSION  
TO CONSIDER THE APPLICATION OF CARDINAL  
PETROLEUM COMPANY FOR AN ORDER POOLING  
ALL INTEREST IN THE DICKINSON-HEATH IN  
THE E½ OF SECTION 15, TOWNSHIP 140 NORTH,  
RANGE 96 WEST, STARK COUNTY, NORTH DAKOTA

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice these causes came on for hearing at 9:30 a.m. on the 20th day of August, 1970, at Bismarck, North Dakota, before the Industrial Commission of North Dakota, hereinafter referred to as the "Commission."

NOW, on this 8 day of September, 1970, the Commission, a quorum being present, having considered the testimony adduced, and the exhibits received at said hearing, 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 these causes and the subject matter thereof.

(2) That since Cases 1004 and 1005 involved essentially the same matter, the two cases were combined for hearing.

(3) That the applicants are owners of oil and gas interests in Section 15, Township 140 North, Range 96 West, Stark County, North Dakota.

(4) That by previous order (Order #920) of the Commission this area has been spaced at 320 acres for each well with the well locations to be in the NW and SE quarter of each section; that said order did not specify whether the 320 acre spacing units would consist of the north and south one-half of each section or the east and west one-half of each section.

(5) That Cardinal Petroleum Company received a permit to drill a well and did drill a well in the SE $\frac{1}{4}$  of Section 15-140-96, Stark County, in the prescribed location, that such well is a producing oil well; that the application for a permit to drill an oil well is required by statute and regulations of the Commission, that the application of Cardinal Petroleum Company to drill said well specified the 320 acre spacing unit to consist of the East  $\frac{1}{2}$  of Section 15-140-96, Stark County.

(6) That subsequent to the drilling and completion of said well North American Royalties, Inc., made application for pooling all interests in the south  $\frac{1}{2}$  of section 15-140-96 as the spacing unit for the well in the SE $\frac{1}{4}$  of said section; that North American Royalties, Inc., holds working interests and mineral interests in the said section.

(7) That subsequent to the filing of the application by North American Royalties, Inc. in Case 1004, Cardinal Petroleum Company applied for an order pooling all interests in the East  $\frac{1}{2}$  of section 15-140-96, Stark County, as the spacing unit for the well in the SE $\frac{1}{4}$  of said section; that Cardinal Petroleum Company holds interests in said section.

(8) That Cardinal Petroleum Company, at the hearing, moved to dismiss the application of North American Royalties, Inc., on the following grounds:

(a) North American's application does not state that it is an interested person in the lands it wishes the Commission to involuntarily pool, and, in fact, it is not an interested person within the meaning of North Dakota Century Code section 38-08-03, which deals with involuntary pooling.

(b) No spacing unit has been designated by the State Geologist or the Commission pursuant to the Regulations of the Commission, and the above referred to statute allowing the Commission to enter an Order for involuntary pooling specifically states that only lands and interests within a spacing unit can be involuntarily pooled.

(9) That North American Royalties, Inc., does own leasehold and royalty interests in the tracts in question and as such is an interested party within the meaning of section 38-08-03.

(10) That Order No. 920 of the Commission does not authorize the State Geologist to establish spacing units in this field.

(11) That by statute (section 38-08-07, North Dakota Century Code) the Commission has the authority to establish spacing units; that such authority is according to the statute, predicated upon the protection of correlative rights, as well as the prevention of waste and the drilling of unnecessary wells.

(12) That the motions of Cardinal Petroleum Company set forth in section 3 should be denied.

(13) That the evidence introduced by the parties hereto is in conflict as to the possibilities of production from a well drilled in the regular location in the NW $\frac{1}{4}$  of section 15-140-96, Stark County, in that North American Royalties does not believe such well would be productive of oil and gas in paying quantities and Cardinal Petroleum Company believes such well would be productive of oil and gas in paying quantities.

(14) That the evidence introduced by the parties hereto is in conflict as to the amount of oil underlying the N $\frac{1}{2}$  of section 15-140-96, Stark County, in that North American Royalties does not believe such tract contains substantial amounts of oil and gas and Cardinal Petroleum believes such tract is underlain with substantial amounts of oil and gas.

(15) That the working interest and royalty interests in the SW $\frac{1}{4}$  and the NE $\frac{1}{4}$  of section 15-140-96, Stark County, are not similar and identical; if the NE $\frac{1}{4}$  is combined with the SE $\frac{1}{4}$  to form a 320 acre spacing unit those persons who own interests in the SW $\frac{1}{4}$  would not share in any production from the well in the SE $\frac{1}{4}$ , if the SW $\frac{1}{4}$  is combined with the SE $\frac{1}{4}$  to form a 320 acre spacing unit those persons who own interests in the NE $\frac{1}{4}$  would not share in any production from the well in the SE $\frac{1}{4}$ .

(16) That Cardinal Petroleum Company contends those persons owning interests in the SW $\frac{1}{4}$  of section 15-140-96, Stark County, would share in the production from a well to be drilled in the NW $\frac{1}{4}$  if the east  $\frac{1}{2}$  and west  $\frac{1}{2}$  of the section form spacing units; North American Royalties, Inc., contends those persons owning interests in the N $\frac{1}{2}$  would share in production from a well in the NW $\frac{1}{4}$  if, as Cardinal contends, the north  $\frac{1}{2}$  of the section is underlain by oil and the north  $\frac{1}{2}$  and the south  $\frac{1}{2}$  form spacing units.

(17) That the conflicting evidence as to the amount of oil underlying the north  $\frac{1}{2}$  of section 15-140-96, Stark County, is inconclusive.

(18) That should a well in the NW $\frac{1}{4}$  of section 15-140-96, Stark County, produce in quantities comparable to the well in the SE $\frac{1}{4}$  the correlative rights of all parties in the section would be protected and the question of whether the spacing units should run in a north-south or east-west direction would not be of serious significance to the correlative rights of the parties owning interests in the section.

(19) Should a well in the NW $\frac{1}{4}$  of section 15-140-96, Stark County, not be productive of oil and gas in paying quantities or produce in amounts substantially less or substantially more than a well in the SE $\frac{1}{4}$ , the question of whether the spacing units should run in a north-south or east-west direction would be of significance to the correlative rights of the parties owning interests in the section and in such instance it would become necessary to determine whether the oil produced from the well in the SE $\frac{1}{4}$  is coming primarily from the north  $\frac{1}{2}$  or the south  $\frac{1}{2}$  of the section; that should a well in the NW $\frac{1}{4}$  be drilled the data derived therefrom would be of great import in determining such question, whether or not such well produced oil in commercial quantities.

(20) That Cardinal Petroleum Company has applied for and has received a permit from the State Geologist to drill a well in the NW $\frac{1}{4}$  of section 15-140-96, Stark County, that representatives of Cardinal Petroleum Company testified that such well would be drilled.

(21) That a determination as to whether the spacing units in section 15-140-96, Stark County, should run in an east-west or north-south direction should await the drilling of a well in the NW $\frac{1}{4}$  and the submission of the data obtained therefrom.

IT IS THEREFORE ORDERED:

(1) That the motions of Cardinal Petroleum Company to dismiss the application of North American Royalties, Inc., are denied.

(2) That the question of determining whether the 320 acre spacing units in section 15-140-96, Stark County, should be composed of the north  $\frac{1}{2}$  and south  $\frac{1}{2}$  of the section or the east  $\frac{1}{2}$  and the west  $\frac{1}{2}$  of the section will be determined by this Commission after the well in the NW $\frac{1}{4}$  is drilled; that should the well be drilled within six months from the date of this order the Commission will again consider the matter upon application of either interested party; that should a well not be drilled in the NW $\frac{1}{4}$  within six months from the date of this order the Commission, on its own motion, will again consider the matter at a hearing subsequent to the expiration of said six month period.

(3) That this order shall remain in full force and effect until further order of the Commission.

DONE, at Bismarck, North Dakota, this 8 day of September, 1970

THE NORTH DAKOTA INDUSTRIAL COMMISSION

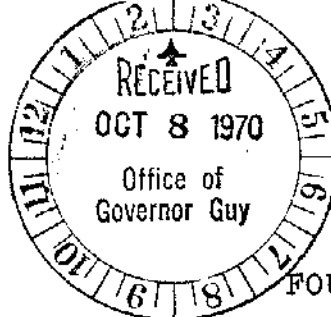
William L. Guy, Governor

Helgi Johanneson, Attorney General

Arne Dahl, Commissioner of Agriculture



STATE OF NORTH DAKOTA  
COUNTY OF BURLEIGH



IN DISTRICT COURT  
FOURTH JUDICIAL DISTRICT

Jacob Schank, Kathryn Schank,  
Ward M. Kirby, Theodore Kellogg  
and E. F. Rakowski,

Appellants,

-vs-

North Dakota Industrial Commission;  
Gerald W. Vandewalle, Assistant At-  
torney General; North American  
Royalties, Inc., a corporation;  
Louis W. Hill, Jr.; Cardinal  
Petroleum Company, a corporation;  
Janet M. Reichert; Joe Kralich,  
Jr.; Josephine Kralicek; Frank  
Veverka, Jr.; Continental Oil Com-  
pany, a corporation; Durvand E. Balch;  
Frank Rummel and Norbert J. Muggli,

Respondents.

NOTICE OF APPEAL AND  
SPECIFICATION OF ERRORS

TO: THE ABOVE NAMED RESPONDENTS

PLEASE TAKE NOTICE that the above named Appellants, being persons adversely affected by Order No. 1082 of the North Dakota Industrial Commission dated September 8, 1970, in Case No. 1004, hereby appeal from such Order to the District Court in and for the County of Burleigh and State of North Dakota. Appellants specify that the Industrial Commission erred:

- (1) In failing to find that Appellants herein joined in the Motion of Cardinal Petroleum Company to dismiss Case No. 1004 on the grounds set forth at Paragraph (8) of the Findings of the Industrial Commission in the Order appealed from.
- (2) In failing to find that Appellants moved to dismiss North Dakota Industrial Commission Case No. 1004 on the grounds that the Commission lacked jurisdiction to hear and determine the application of North American Royalties, Inc. therein.
- (3) In finding and concluding that the North Dakota Industrial Commission had jurisdiction over the cause and subject matter in Case No. 1004.
- (4) In denying the Motion of Cardinal Petroleum Company,

joined in by Appellants herein, to dismiss application of North American Royalties, Inc. in Case No. 1004.

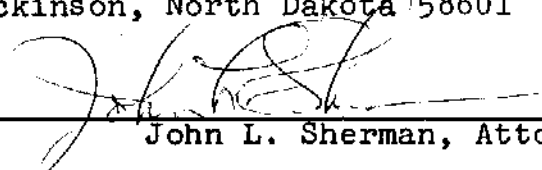
- (5) In denying the Motion to dismiss the application of North American Royalties, Inc. in Case No. 1004 made by the Appellants at the commencement of proceedings.

Pursuant to the provision of Section 38-08-14 of the North Dakota Century Code, Appellants hereby specify that the portion of the record these Appellants desire included in the transcript upon this Appeal consists of that part commencing with the Motion of Cardinal Petroleum Company to dismiss Case No. 1004 through the joining therein by Appellants herein and their Motion to dismiss said case for lack of jurisdiction and the Order of the Commission immediately there following taking said Motions under advisement.

Executed in duplicate this 8th day of October, A. D., 1970.

MACKOFF, KELLOGG, KIRBY & KLOSTER, P.C.  
Attorneys for the Appellants, Jacob Schank,  
Kathryn Schank, E. F. Rakowski, Ward M.  
Kirby and Theodore Kellogg  
Office and Post Office Address:  
100 Liberty National Bank Bldg.  
P. O. Box 1097  
Dickinson, North Dakota 58601

By

  
John L. Sherman, Attorney

STATE OF NORTH DAKOTA

COUNTY OF GRAND FORKS

ss

AFFIDAVIT OF  
MAILING

I, Clarence B. Folsom, Jr., being first duly sworn upon oath, depose and say: That I am over twenty-one years of age; that on the 16 day of Sept, 1970, I enclosed in separate envelopes true and correct copies of the attached Order No. 1082 of the North Dakota State Industrial Commission, and deposited the same in the United States Post Office at the University Station, University of North Dakota, Grand Forks, North Dakota, with postage thereon fully paid, directed to: As shown below  
all of whom filed written appearances at the hearing of the Industrial Commission on Case No. 1004.

Mr. Theodore Kellogg      P. O. Box 1097  
Dickinson, ND      58601


Mr. John R. Davidson      Room 805, Midland Bank Bldg.  
Billings, MT      59101

Mr. D. Ragland      1814 Lyndale Lane  
Billings, MT      59102

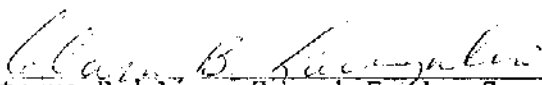
Mr. C. B. Thames Sr.      P. O. Box 400  
Bismarck, ND      58202

Mr. Joseph Kralicek Jr.      Capitol Bldg.  
Dickinson, ND      58601

Mr. Arthur C. Bauer      P. O. Box 1476  
Bismarck, ND      58202

  
(Signature of person mailing  
Order and preparing Affidavit)

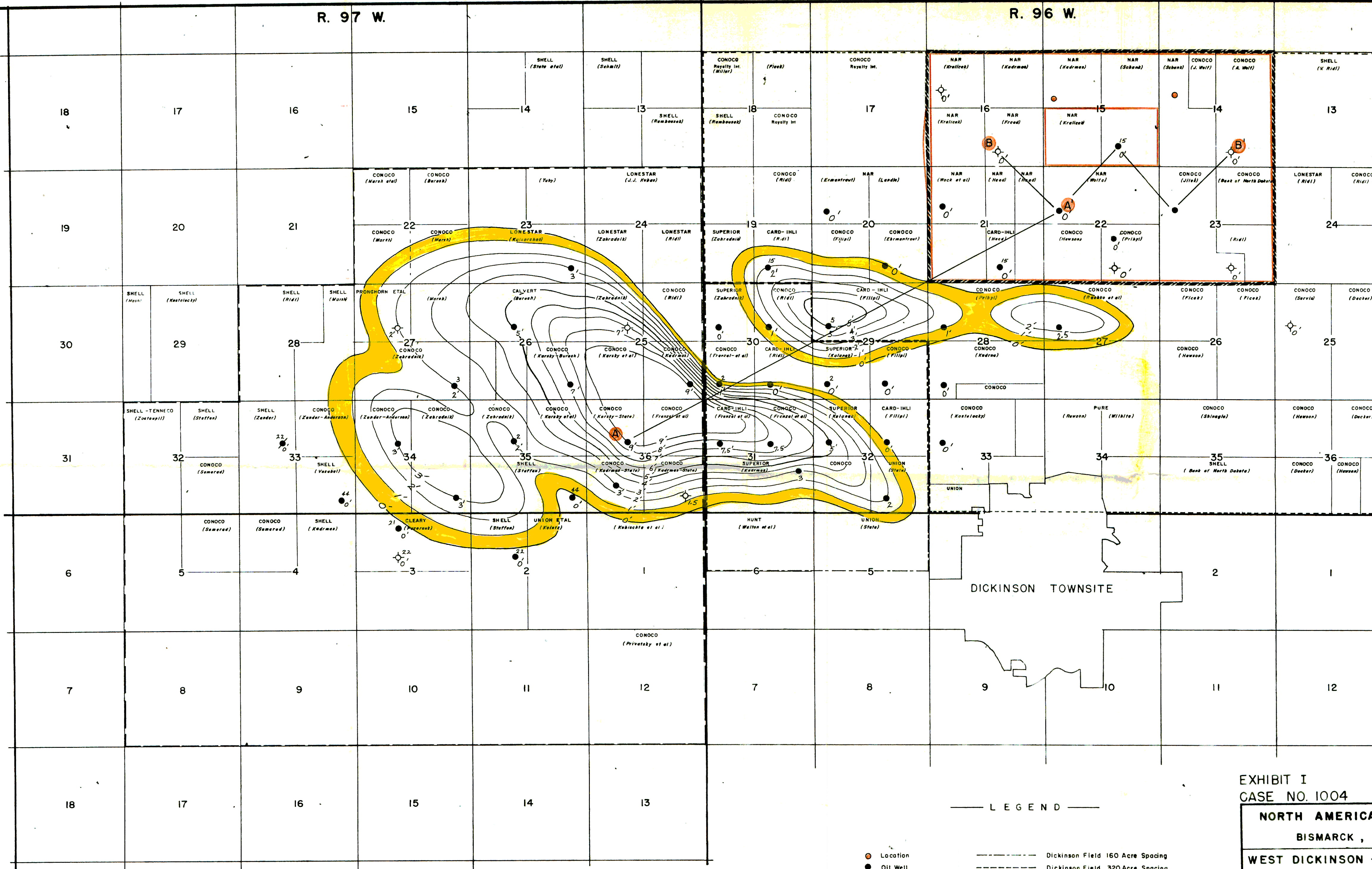
Subscribed and sworn to before  
me this 16th day of Sept., 1970.

  
Notary Public, Grand Forks County  
My Commission expires 1 July 1971



R. 97 W.

R. 96 W.



- L E G E N D —
- Location
  - Oil Well
  - Shut-in Well
  - ⊙ Abandoned Well
  - 2 - Well Number
  - 9-Net Sand
  - Dickinson Field 160 Acre Spacing
  - Dickinson Field 320 Acre Spacing
  - West Dickinson Field 320 Acre Spacing
  - A' ----- A' CROSS SECTIONS
  - B' ----- B'
  - AREA RELAVENT TO CASE

EXHIBIT I  
CASE NO. 1004

**NORTH AMERICA**  
**BISMARCK,**

**WEST DICKINSON**  
**ISOPACH MAP HEA**  
**CONTOUR II**

County: Stark  
Geologist: R.M. Zajac  
Scale: 1" = 2640'



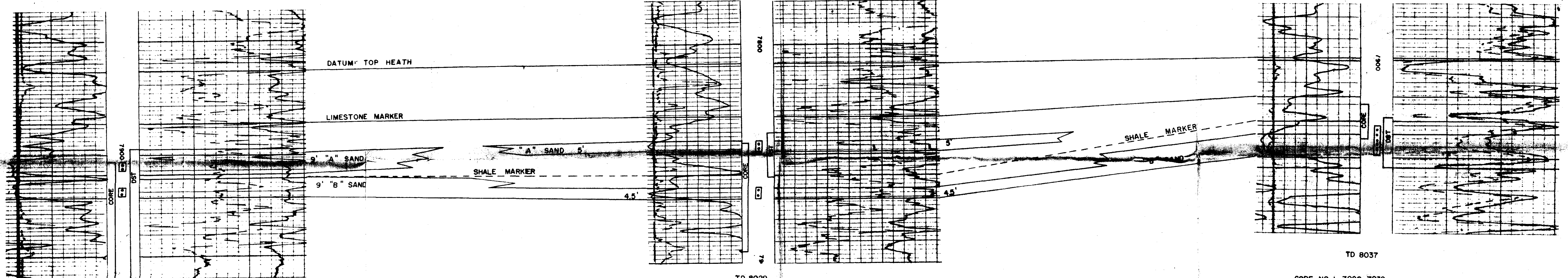
# STRATIGRAPHIC CROSS SECTION A-A'

CONTINENTAL NO. 1 KASKY STATE  
SE NW SEC. 36-140N-97W  
STARK COUNTY, NORTH DAKOTA

CARDINAL-IHLI NO. 5-29 FILIPI  
SW NW SEC. 29-140N-96W  
STARK COUNTY, NORTH DAKOTA

NORTH AMERICAN NO. 1 WOLFE  
SW NW SEC. 22-140N-96W  
STARK COUNTY, NORTH DAKOTA

KB2582 10,570' KB2510 KB2576 11,900'



TD 8025

CORE NO. 1 7906-7966  
DST NO. 1 7900-7960 SI 30', OP 60', SI 90'  
REC: OIL TO SURFACE IN 60'  
NO PRESSURES, TOOL PLUGGED  
PERF: 7906-7910; 7918-7923  
COMPLETED 7-19-67 IPP 830 BOPD

TD 8029

CORE NO. 1 7845-7867  
CORE NO. 2 7867-7895  
DST NO. 1 7840-7867 SI 30', OP 45', SI 30'  
REC: 4104' OIL  
SIP 3347\* - 3208\*  
PERF: 7844-7849; 7866-7870  
COMPLETED 7-20-67 IPP 444 BOPD

TD 8037

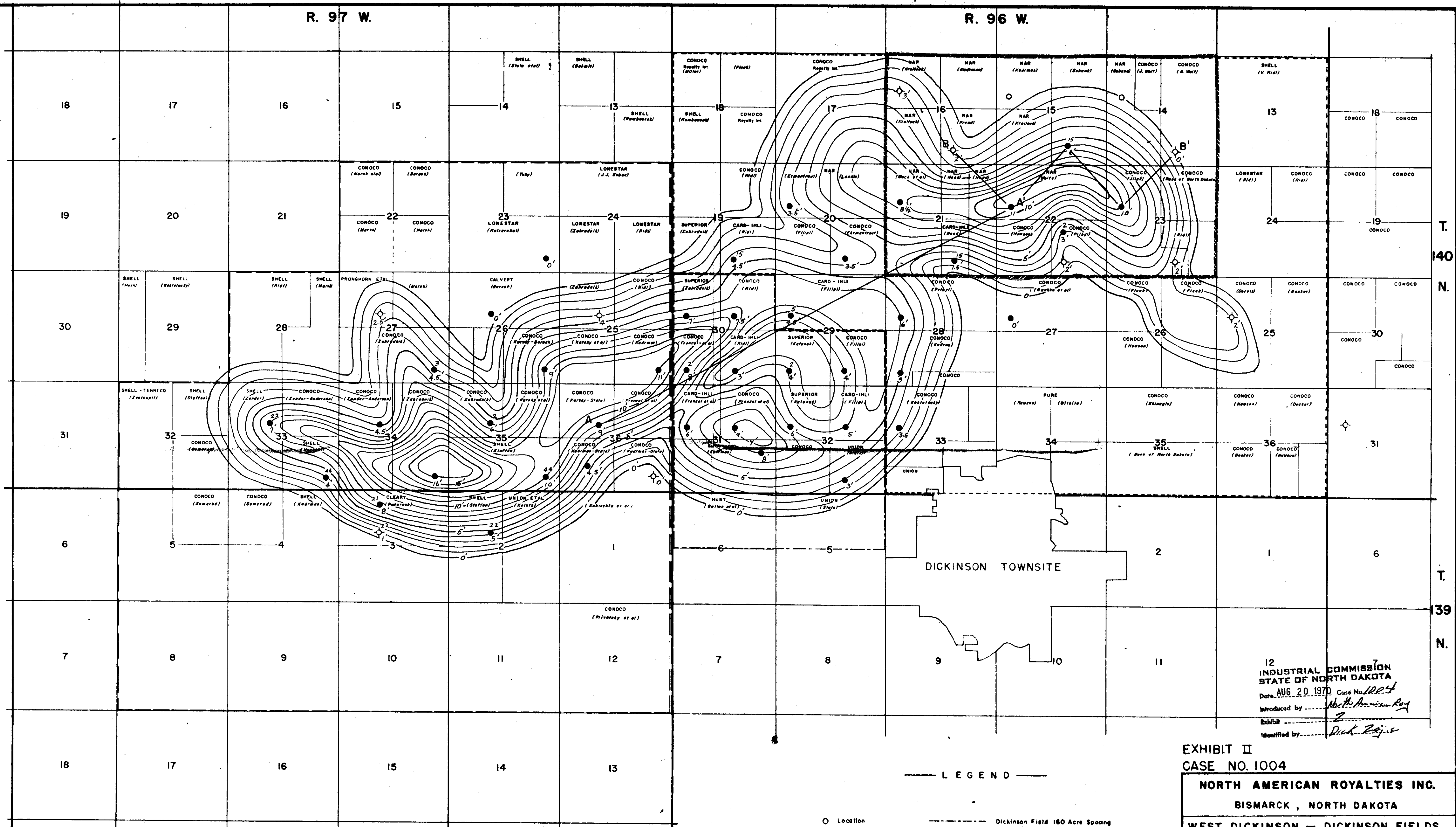
CORE NO. 1 7920-7932  
CORE NO. 2 7932-7934  
CORE NO. 3 7934-7936  
DST NO. 1 7926-7950 SI 30', OP 120', SI 30'  
REC: 20' MUD  
5875' OIL  
5895 TOTAL FLUID  
SIP 2235\* - 2235\*  
PERF: 7933-7944  
COMPLETED 1-20-70 IPP 595 BOPD

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
Date AUG. 20, 1970 Case No. 1004  
Introduced by *North American Royalties, Inc.*  
Exhibit *4*  
Identified by *Dickinson*

NORTH AMERICAN ROYALTIES, INC.  
WEST DICKINSON - DICKINSON FIELDS  
STARK COUNTY, NORTH DAKOTA

EXHIBIT IV CASE NO. 1004





LEGEND

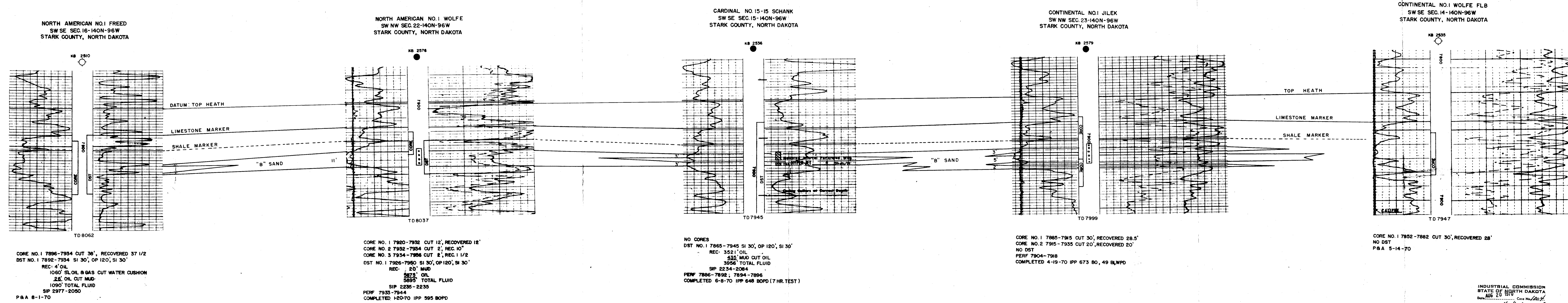
- Location
- Oil Well
- Shut-in Well
- Abandoned
- 2- Well Number
- 9- Net Sand
- Dickinson Field 160 Acre Spacing
- Dickinson Field 320 Acre Spacing
- West Dickinson Field 320 Acre Spacing
- A-----A' CROSS SECTIONS
- B-----B'
- ▭ AREA RELATIVE TO CASE

12 INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
Date AUG. 20, 1970 Case No. 1004  
Introduced by North American Roy  
Exhibit 2  
Identified by Dick Zajic

EXHIBIT II  
CASE NO. 1004  
NORTH AMERICAN ROYALTIES INC.  
BISMARCK, NORTH DAKOTA  
WEST DICKINSON - DICKINSON FIELDS  
ISOPACH MAP HEATH NET "B" SAND  
CONTOUR INTERVAL 1'  
County: Stark State: North Dakota  
Geologist: R.M. Zajic  
Scale: 1" = 2640' Date: 8-12-70



# STRATIGRAPHIC CROSS SECTION B-B'



INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
AUG 20 1970  
Docket No. 1004  
Introduced by *North American Roy.*  
Exhibits *5*  
Identified by *Richard J. Roy, Jr.*

NORTH AMERICAN ROYALTIES, INC.  
DICKINSON FIELDS  
STARK COUNTY, NORTH DAKOTA  
EXHIBIT V  
CASE NO 1004



E<sup>1</sup><sub>2</sub> 15-140-96

OWNER

WORKING INTEREST

North American Royalties, Inc.

.3850400

Louis W. Hill, Jr.

.2600400

Cardinal Petroleum Company

.3191900

J. Hiram Moore

.0357300

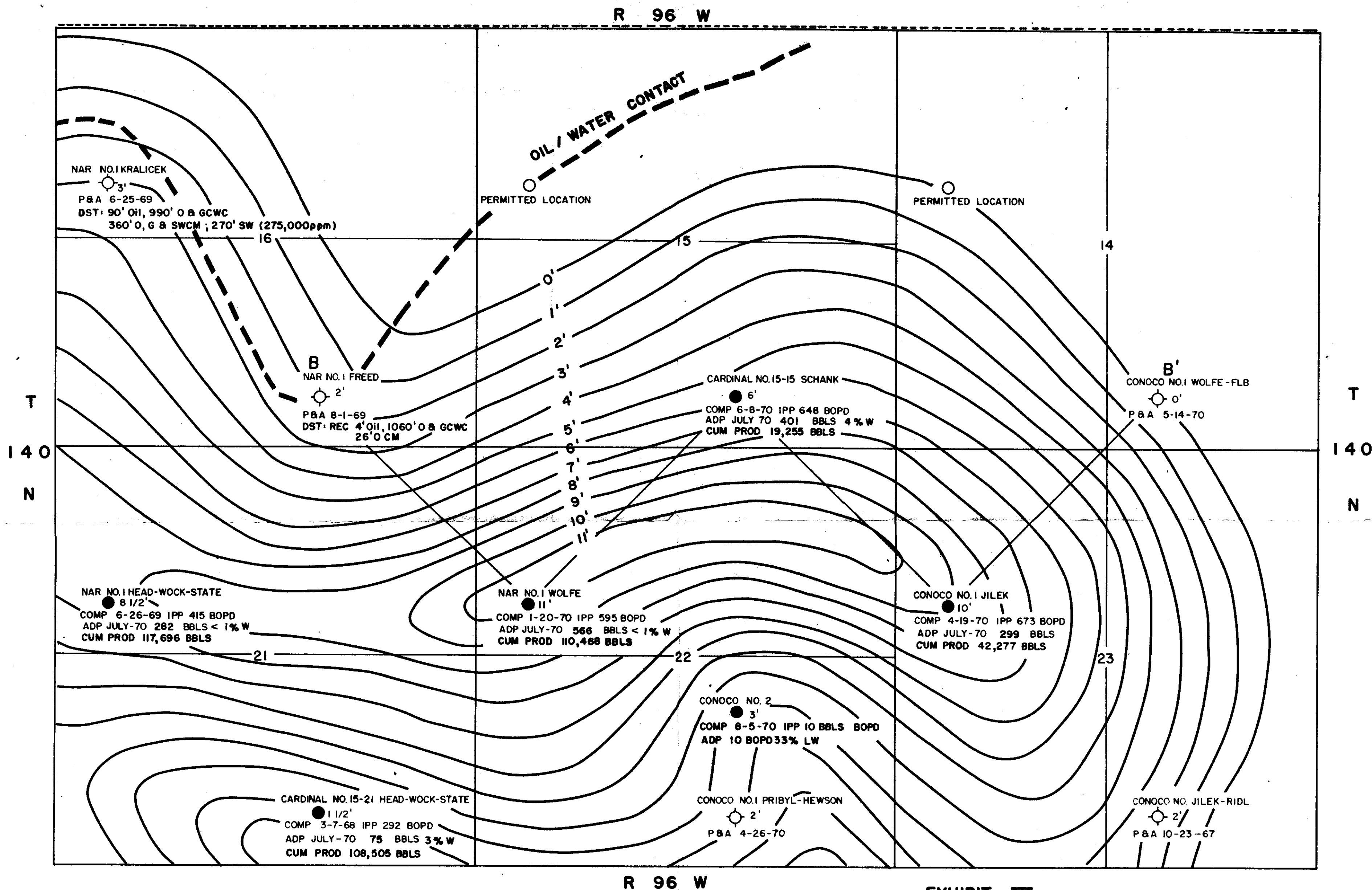
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1.0000000

<u>OWNER</u>	<u>REVENUE INTEREST</u>
The Home-Stake Royalty Corporation	.0033480
The Home-Stake Oil and Gas Company	.0033480
The First Trust Company of Saint Paul as Trustee for Johanna Maud Hill, Louis Fors Hill, Mari Hill	.0033480
E. O. Hancock	.0089280
Frank Rummel, Jr. and Margaret Rummel	.0016740
Jacob Schank and Kathryn Schank	.0223210
Sebastian A. Mischel and Odessa Mischel	.0022320
John A. Hoff and Irene M. Hoff	.0011160
Tillie Fischer	.0022320
E. F. Rakowski and Gladys M. Rakowski	.0022320
Wm. Schatz and Lena Schatz	.0022320
George P. Ficek	.0022320
R. L. Higgins and Wilma T. Higgins	.0022320
Viola L. Younger	.0014880
Emna L. Purves	.0022330
Johnnie L. Service and C. T. Service	.0022330
Wm. Rummel	.0047430
Julian Toskey and Pearl Toskey	.0022320
Norbert J. Muggli and Doris Muggli	.0006690
Ward M. Kirby and Virginia J. Kirby	.0006690
Kathleen Kellogg, Trustee, and Theodore Kellogg and Kathleen Kellogg	.0128900
Shirley Ruth Shapiro and Sidney K. Shapiro	.0121370
Evelyn Margaret Rauch and Lloyd Rauch	.0121370
D. E. Balch	.0117180
Margaret H. Rummel	.0071140
Estate of William R. Reichert, deceased	.0025110
Elizabeth Landis	.0022330
Gladys S. Landis, DeWitt Landis, Jr., and Charles E. Landis	.0022330
J. Hiram Moore	.0312640
Louis W. Hill, Jr.	.2248380
Cardinal Petroleum Company	.2593450
North American Royalties, Inc.	.3498380

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1.0000000



— L E G E N D —

- Location
- Oil Well
- ⊙ Shut-in Well
- ⊙ Abandoned Well
- Name
- Comp Inf.
- Avg Daily Prod
- Cum Prod 8-1-70
- Dickinson Field 320 Acre Spacing
- B-----B' Cross Section
- Spacing Unit As Requested By NAR

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
AUG 20 1970

Case No. 1004  
Introduced by *North American Roy*  
Exhibit *6*  
Identified by *Paul Zajac*

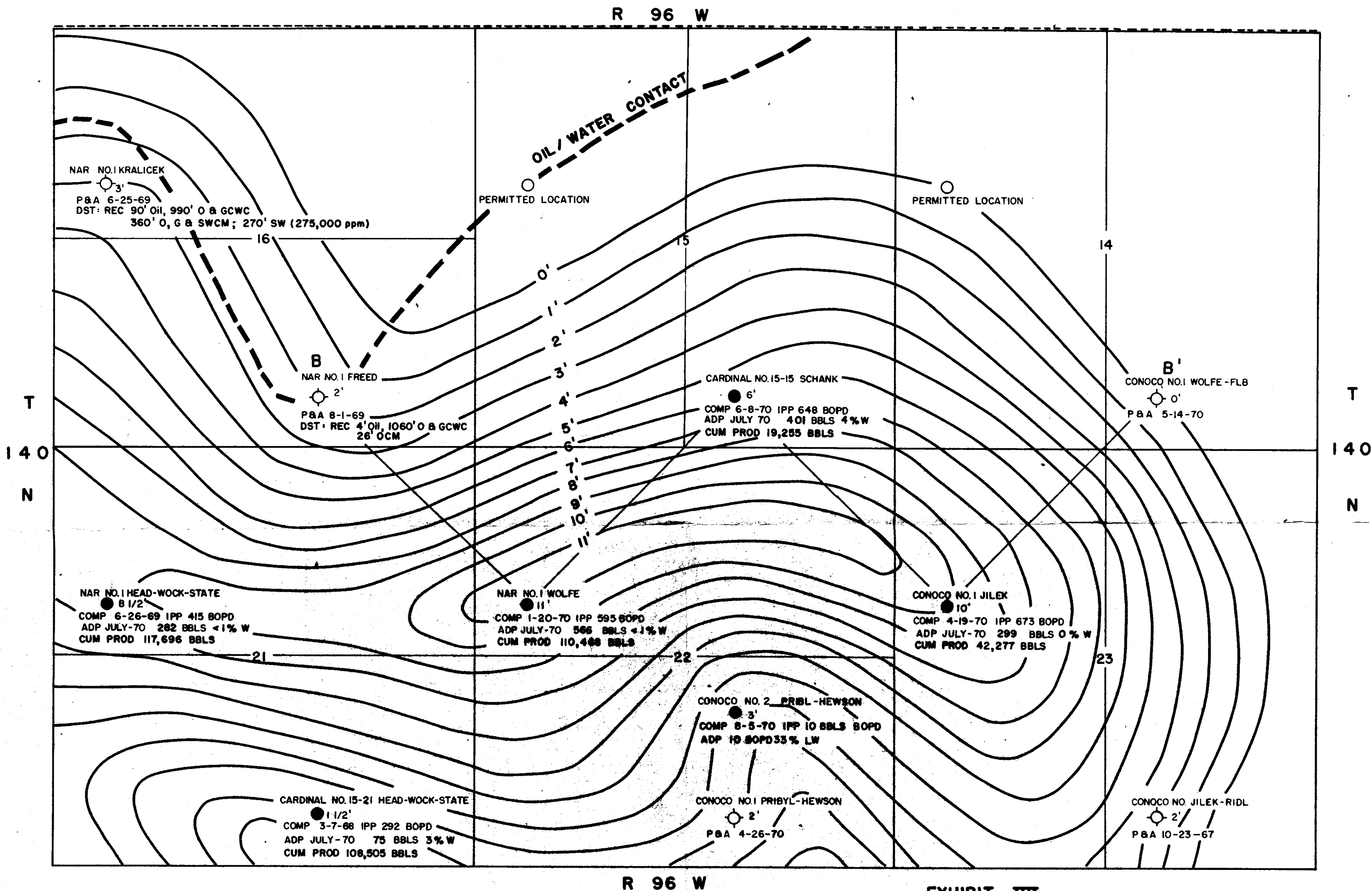
**EXHIBIT VI  
CASE NO. 1004**

**NORTH AMERICAN ROYALTIES INC.  
BISMARCK, NORTH DAKOTA**

**WEST DICKINSON - DICKINSON FIELDS  
ENLARGEMENT OF EXHIBIT II  
ISOPACH MAP HEATH NET "B" SAND**

County: Stark  
Geologist: R. M. Zajac  
Scale: 880' = 1"

State: North Dakota  
Date: 8-12-70



**EXHIBIT VII  
CASE NO. 1004**

**NORTH AMERICAN ROYALTIES INC.  
BISMARCK, NORTH DAKOTA**

**WEST DICKINSON - DICKINSON FIELDS  
ENLARGEMENT OF EXHIBIT II  
ISOPACH MAP HEATH NET "B" SAND**

County: Stark  
Geologist: R. M. Zajic  
Scale: 880' = 1"

State: North Dakota  
Date: 8-12-70

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
AUG 20 1970

Introduced by *North American Roy.*  
Exhibit *7*  
Modified by *R. M. Zajic*

EXHIBITS

NORTH DAKOTA INDUSTRIAL COMMISSION  
HEARING

AUGUST 20, 1970

CASE No. 1004

RESERVOIR DATA  
HEATH ZONE  
DICKINSON FIELD  
STARK COUNTY, NORTH DAKOTA

RESERVOIR CHARACTERISTICS

Original Pressure - P<sub>oi</sub> 3475 psi  
Porosity -  $\phi$  14 %  
Permeability - K 5-200 md avg  
Connate Water - S<sub>w</sub> 35 %  
Saturation Press. - P<sub>bp</sub> 1115 psi

SOURCE

"Oil and Gas Fields of North Dakota" (by North Dakota Geological Society)  
" " " " " " "  
" " " " " " "  
"Official Oil In North Dakota - Prod Statistics"  
(by North Dakota Geological Survey)

CRUDE CHARACTERISTICS

Gravity - °API 36.9 @ 60 °F  
Pour Point - 95 °F  
Solution Gas-Oil Ratio - R<sub>s</sub> 342 scf/STB

DST Recovery Cardinal-Schank No.15-15  
"Oil and Gas Fields of North Dakota"  
DST Recovery Cardinal-Schank No.15-15

RECOVERY MECHANISM

Fluid and rock expansion and solution gas drive.

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
Date AUG 20 1970 Case No. 1004  
Introduced by M.R.  
Exhibit B  
Identified by R.D. Ragland

Exhibit VIII  
Case No. 1004  
North Dakota Industrial  
Commission Hearing  
August 20, 1970  
Ronald D. Ragland

DST DATA  
HEATH ZONE  
CARDINAL-SCHANK NO.15-15  
SWSE SEC.15-T140N-R96W  
DICKINSON FIELD  
STARK COUNTY, NORTH DAKOTA

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
Date: AUG 20 1970  
Case No. 1004  
Introduced by: NAR  
Exhibit: 9  
Identified by: Ron Ragland

LIQUID SYSTEM

Tested Interval 7865' - 7945'  
Gauge Depth 7884'  
Drill Pipe 7898'  
Drill Collars 434'  
Elevation 2536' KB  
Temperature 196 °F  
Oil 36.9 ° API @ 60 °F

RECOVERY

3521' Oil  
434' Mud cut Oil  
3955' Total

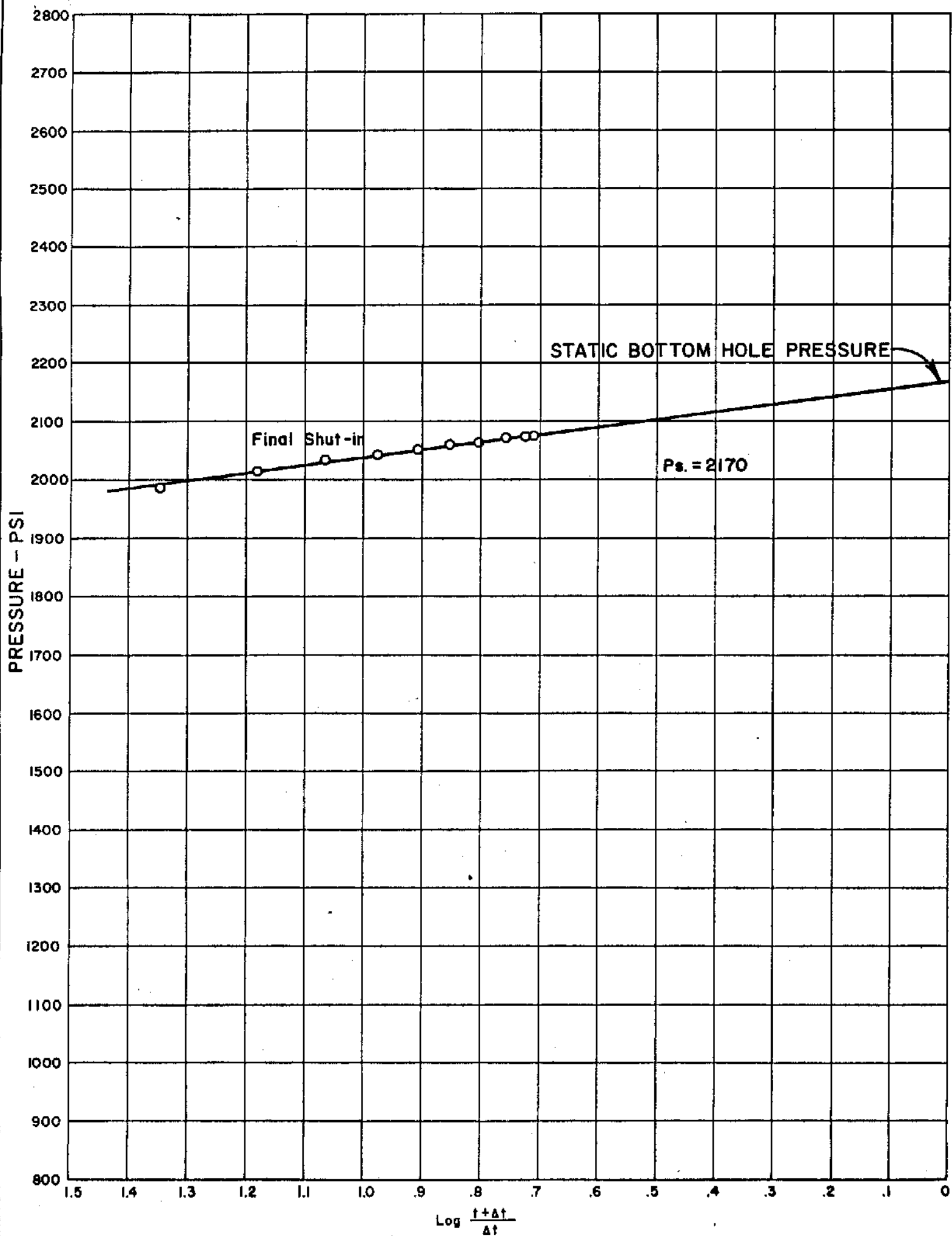
INITIAL FLOW

<u>Time</u> <u>Press</u>		<u>INITIAL SHUT-IN</u>		
		<u>Time</u>	<u>T+Δt</u> <u>Δt</u>	<u>log T+Δt</u> <u>Δt</u> <u>Press</u>
		0		429
		3	3.667	.564 1864
		6	2.333	.368 2012
		9	1.889	.279 2066
8	429	12	1.667	.223 2097
		15	1.533	.186 2118
		18	1.444	.160 2135
		21	1.381	.140 2150
		24	1.333	.125 2171
		27	1.296	.113 2202
		30	1.267	.103 2244
		31	1.258	.100 2256

FINAL FLOW

<u>Time</u> <u>Press</u>		<u>FINAL SHUT-IN</u>		
		<u>Time</u>	<u>T+Δt</u> <u>Δt</u>	<u>log T+Δt</u> <u>Δt</u> <u>Press</u>
		0		1403
		3	43.667	1.640 1931
		6	22.333	1.349 1988
		9	15.222	1.182 2014
120	1403	12	11.667	1.067 2031
		15	9.533	.979 2043
		18	8.111	.909 2052
		21	7.095	.851 2060
		24	6.333	.802 2065
		27	5.741	.759 2071
		30	5.267	.722 2075
		31	5.129	.710 2076

Exhibit IX  
Case No. 1004  
North Dakota Industrial Commission  
Hearing  
August 20, 1970  
Ronald D. Ragland



### DST PRESSURE BUILD-UP PLOT

CARDINAL-SCHANK No. 15-15

SWSE Sec. 15 T.140N.-R.96W.

DICKINSON FIELD

STARK COUNTY, NORTH DAKOTA

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
AUG 20 1970

Date Case No. 1004

Introduced by NRR

Exhibit 10

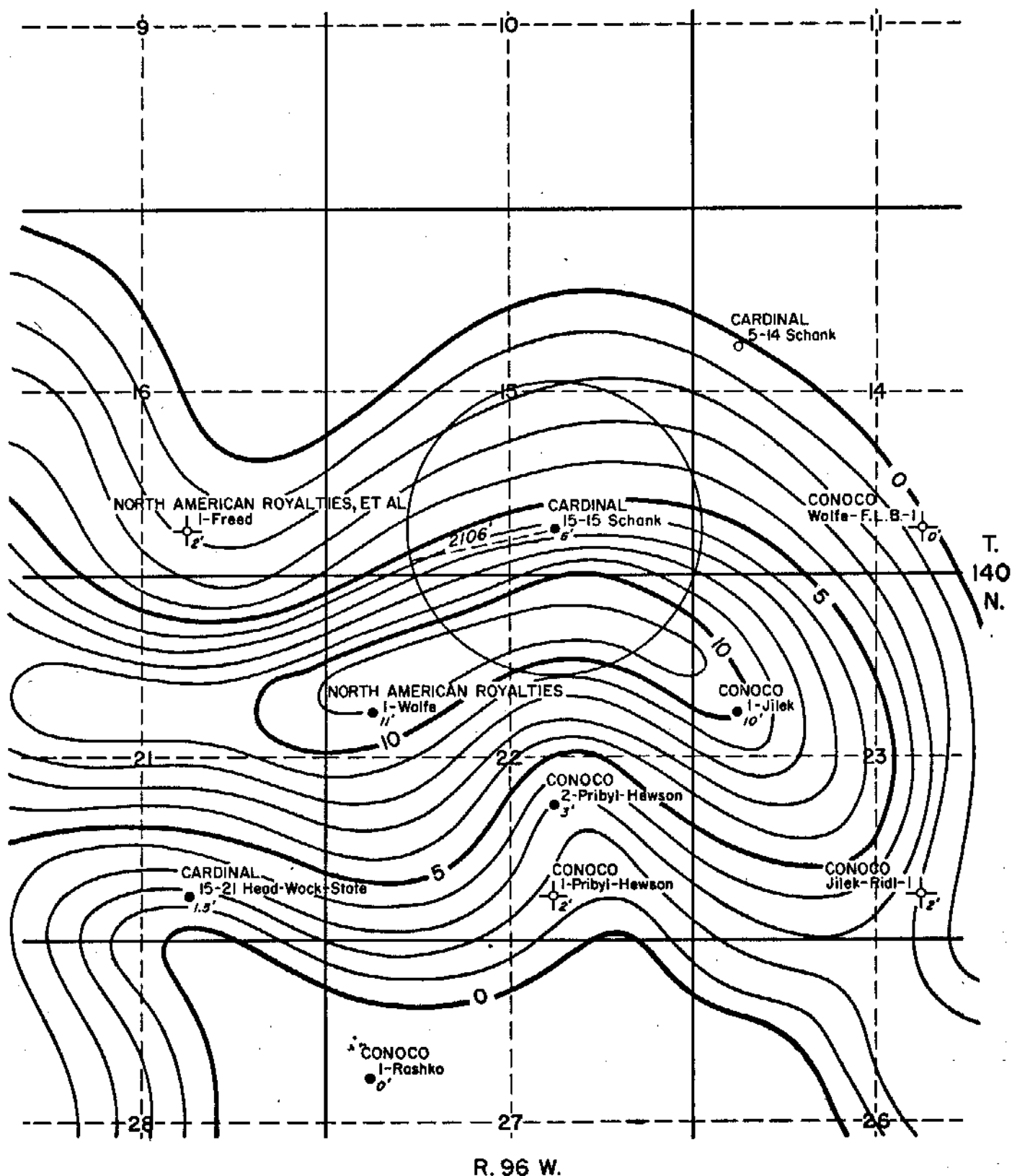
Identified by Ron Ragland

Exhibit 8  
Case No. 1004

NORTH DAKOTA INDUSTRIAL COMMISSION HEARING  
August 20, 1970

Ronald D. Ragland





## ESTIMATED DRAINAGE AREA

CARDINAL PETROLEUM CO.

Schank 15-15

SWSE Sec. 15 T.140N.-R.96W.

HEATH "B" SAND RESERVOIR

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA

DICKINSON FIELD  
STARK COUNTY, NORTH DAKOTA

Date AUG 20 1970 Case No. 1004

Scale: 1" = 2000'

Introduced by NAR

Exhibit 11

Identified by Ron Ragland

Exhibit XI  
Case No. 1004

NORTH DAKOTA INDUSTRIAL COMMISSION HEARING  
August 20, 1970

Ronald D. Ragland

CONCLUSIONS AND RECOMMENDATIONS  
NORTH DAKOTA INDUSTRIAL COMMISSION HEARING  
AUGUST 20, 1970

CONCLUSIONS

1. One well will drain an area equivalent to 320 acres or more in the Heath Reservoir Dickinson Field.
2. Reservoir flow into the Cardinal-Schank No.15-15 is radial as opposed to linear or other patterns.
3. A radial flow pattern equivalent to 320 acres will drain an area having a radius of 2106'.
4. Substantially more of the Southwest Quarter of Sec. 15-T140N-R96W will be within the drainage pattern of the Cardinal-Schank No. 15-15 than will be the Northeast Quarter.

RECOMMENDATIONS

Therefore, to insure equity for all working interest and mineral interest owners, it is recommended that:

1. Spacing for the Cardinal-Shank No.15-15 conform to the 320 acres per well previously established by the Commission.
2. The quarter sections in Section 15 most affected by production from the Cardinal-Schank No.15-15 be included in the spacing unit for the well.
3. The Commission issue an order establishing the S $\frac{1}{2}$  Sec. 15-T140N-R96W as the spacing unit for the Cardinal-Schank No.15-15.

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA  
Date AUG 20 1970 Case No. 1004  
Introduced by MR  
Exhibit 12  
Identified by Ronald D. Ragland

Exhibit XII  
Case No. 1004  
North Dakota Industrial  
Commission Hearing  
Ronald D. Ragland

NORTH AMERICAN ROYALTIES, INC.



OIL AND GAS OPERATIONS • ROCKY MOUNTAIN AREA  
PROVIDENT LIFE BUILDING • P. O. BOX 1476  
BISMARCK, N. D. 58501

June 16, 1970

COMMISSION  
SOUTH DAKOTA  
AUG 20 1970 Case No. 100.4  
Introduced by NAR  
Exhibit 13  
Identified by Arthur Bauer

Dear Royalty Owner:

Please find enclosed two (2) copies of Communitization Agreement covering the S $\frac{1}{2}$  Section 15, Township 140 North, Range 96 West, Stark County, North Dakota.

The Schank well located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$  Section 15, Township 140 North, Range 96 West, is now in the process of being completed as a producing Heath Sand oil well. The Dickinson Field spacing requires 320 acres for each well located in this area of the field. It is our opinion that the equities require that the oil underlying the S $\frac{1}{2}$  of Section 15, Township 140 North, Range 96 West should be included within the 320 acre spacing unit for the well located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 15, Township 140 North, Range 96 West in order to protect the correlative rights of all of the parties owning an interest in these properties.

We request that you sign one copy of the enclosed Agreement in the space provided, which we have checked with a red pencil, and insert your correct address in the blank opposite your name, have your signature notarized and return the fully executed and acknowledged Agreement to North American Royalties, Inc. in the enclosed addressed, stamped envelope. You may retain the other copy of the Agreement for your file.

Thank you.

Very truly yours,

NORTH AMERICAN ROYALTIES, INC.

ACB:ms  
Enc.

Gentleman  
By: Arthur C. Bauer  
we are not signing the agreement  
if you want it back unsigned please  
send postage Mr and Mrs  
Jacob Schank

COMMISSION  
NORTH DAKOTA  
AUG 20 1970  
Case No. 1004

Introduced by NAR

Exhibit 14

Identified by Arthur Bevan

COMMUNITIZATION AGREEMENT

Dickinson-Heath Pool  
Stark County, North Dakota

THIS AGREEMENT, made and entered into as of the 12th day of June, 1970, by and between the parties subscribing, ratifying or consenting hereto;

WITNESSETH:

WHEREAS, the parties hereto own royalty, overriding royalty, working interest or operating rights under the oil and gas leases and lands subject to this agreement; and

WHEREAS, the parties hereto desire to communitize and pool their respective mineral interests in the lands subject to this agreement for the purpose of developing and producing communitized substances in accordance with the terms and conditions hereof.

NOW, THEREFORE, in consideration of the premises and the mutual advantages to the parties hereto, it is agreed by and between the parties hereto as follows:

1. The lands covered by this agreement (hereinafter referred to as "Communitized Area") are described as follows:

Township 140 North, Range 96 West  
Section 15: S $\frac{1}{2}$

Containing 320 acres, more or less;

and this agreement shall include only the Heath Sand formation underlying said lands and the oil, gas and associated hydrocarbons, hereinafter referred to as "Communitized Substances", producible from such reservoir.

2. Attached hereto and made a part of this agreement for all purposes is Exhibit "A", showing the acreage of the tracts and the oil and gas leases covering the lands within the Communitized Area.

3. North American Royalties, Inc. is herewith designated Operator of the Communitized Area. All matters of operation shall be governed by the Operator under and pursuant to the terms and provisions of this agreement. A successor operator may be designated by the owners of the working interest in the Communitized

Area.

4. The Communitized Area shall be developed and operated as an entirety with the understanding and agreement between the parties hereto that all Communitized Substances produced therefrom shall be allocated among the leaseholds comprising said area in the proportion that the acreage interest of each leasehold bears to the entire acreage interest committed to this agreement. Nothing contained herein shall be construed as obligating any party or parties hereto to conduct any operations on the Communitized Area.

5. The royalties payable on Communitized Substances allocated to the individual leases comprising the Communitized Area and the rentals provided for in said leases shall be determined and paid on the basis prescribed in each of the individual leases. Payment of rentals under the terms of leases subject to this agreement shall not be affected by this agreement except as provided for under the terms and provisions of said leases or as may herein be otherwise provided. Except as herein modified and changed, the oil and gas leases subject to this agreement shall remain in full force and effect as originally made and issued.

6. There shall be no obligation on the lessees to offset any well or wells completed in the same formation as covered by this agreement on separate component tracts into which the Communitized Area is now or may hereafter be divided, nor shall any lessee be required to measure separately Communitized Substances by reason of the diverse ownership thereof, but the lessees hereto shall not be released from their obligation to protect said Communitized Area from drainage of Communitized Substances by a well or wells which may be drilled offsetting said area.

7. The commencement, completion, continued operating or production of a well or wells for Communitized Substances on the Communitized Area shall be construed and considered as the commencement, completion, continued operation or production on each and all of the lands within and comprising said Communitized Area, and operations or production as to each lease committed hereto.

8. Production of Communitized Substances and disposal thereof shall be in conformity with allocation, allotments and quotas made or fixed by any duly authorized person or regulatory body under applicable federal or state statutes.

This agreement shall be subject to all applicable federal and state laws or executive orders, rules and regulations, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with, any such laws, orders, rules or regulations.

9. The covenants herein shall be construed to be covenants running with the land and any grant, transfer or conveyance of any interest shall be subject hereto, whether voluntary or not.

10. This agreement shall remain in force and effect for a period of two (2) years from the effective date hereof and so long thereafter as Communitized Substances are produced in commercial quantities, unless sooner terminated by agreement of the parties. This agreement shall not terminate upon cessation of production if, within sixty (60) days thereafter, reworking or drilling operations are commenced and are thereafter conducted with reasonable diligence during the period of nonproduction. The effective date hereof shall be June 12, 1970 for all purposes.

11. This agreement shall be binding on the parties hereto and their respective successors and assigns.

12. This agreement may be executed in any number of counterparts to the same effect as though all parties had executed the same instrument.

13. This agreement shall be binding on each party executing the original or a counterpart hereof regardless of whether it is executed by any other party.

14. The parties hereto do hereby ratify, approve, confirm and adopt the oil and gas leases described on Exhibit "A", and do hereby agree and declare that said leases are now in full force and effect.

EXECUTED as of the day and year first above set forth.

WORKING INTEREST OWNERS

ADDRESS

P. O. Box 1476  
Bismarck, North Dakota 58501

SIGNATURE

NORTH AMERICAN ROYALTIES, INC.

By: Arthur C. Banes  
Vice President

Attest: Richard M. Zajac  
Assistant Secretary

ADDRESS

SIGNATURE

W. 1453 First National Bank Bldg.

St. Paul, Minnesota 55101

Louis W. Hill, Jr.

CARDINAL PETROLEUM COMPANY

By: \_\_\_\_\_

Attest: \_\_\_\_\_

HELMERICH & PAYNE, INC.

By: \_\_\_\_\_

Attest: \_\_\_\_\_

CONTINENTAL OIL COMPANY

By: \_\_\_\_\_

Attorney in Fact

Huston Huffman

J. Hiram Moore

ROYALTY OWNERS

ADDRESS

SIGNATURE

E. O. Hancock

THE HOME-STAKE ROYALTY CORPORATION

By \_\_\_\_\_

ATTEST: \_\_\_\_\_

THE HOME-STAKE OIL AND GAS COMPANY

By \_\_\_\_\_

ATTEST: \_\_\_\_\_

ADDRESS

SIGNATURE

THE FIRST TRUST COMPANY OF ST. PAUL AS  
TRUSTEE FOR JOHANNA MAUD HILL, LOUIS FORS  
HILL AND MARI HILL

By \_\_\_\_\_

\_\_\_\_\_  
Frank Rummel, Jr.

\_\_\_\_\_  
Margaret Rummel

\_\_\_\_\_  
Jacob Schank

\_\_\_\_\_  
Kathryn Schank

\_\_\_\_\_  
Sebastian A. Mischel

\_\_\_\_\_  
Odessa Mischel

\_\_\_\_\_  
John A. Hoff

\_\_\_\_\_  
Irene M. Hoff

\_\_\_\_\_  
Tillie Fischer

\_\_\_\_\_  
E. F. Rakowski

\_\_\_\_\_  
Gladys M. Rakowski

\_\_\_\_\_  
Wm. Schatz

\_\_\_\_\_  
Lena Schatz



[illegible]

SIGNATURE

---

George P. Ficek

---

R. L. Higgins

---

Wilma T. Higgins

---

Viola L. Younger

---

Emna L. Purves

---

Johnnie L. Service

---

C. T. Service

---

Wm. Rummel

---

Julian Toskey

---

Pearl Toskey

---

Virginia C. Moseley, individually

---

Virginia C. Moseley, Trustee

---

Frederick S. Moseley, Jr., Trustee

---

Frank Veverka

---

Joseph Kralicek, Jr.

---

Josephine Kralicek

ADDRESSSIGNATURE

Norbert J. Muggli

Doris Muggli

Ward M. Kirby

Virginia J. Kirby

Kathleen Kellogg

Theodore Kellogg

Margaret H. Rummel

Shirley Ruth Shapiro

Sidney K. Shapiro

Evelyn Margaret Rauch

Lloyd Rauch

D. E. Balch

Estate of William R. Reichert, deceased

Elizabeth Landis

Gladys S. Landis, Individually and as Independent  
Executor of the Will and of the Estate of Hugh  
DeWitt Landis, deceased

ADDRESS

SIGNATURE

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
DeWitt Landis, Jr., Individually and as  
Independent Executor of the Will and of the  
Estate of Hugh DeWitt Landis, deceased

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Charles E. Landis, Individually and as  
Independent Executor of the Will and of the  
Estate of Hugh DeWitt Landis, deceased

ACKNOWLEDGEMENTS

STATE OF North Dakota )  
 ) ss.  
COUNTY OF Burleigh )

CORPORATION

On this 18th day of June, 1970, before me Mary Senzek

Notary Public, personally appeared Arthur C. Bauer  
known to me to be the Vice President (or the Secretary) of the corporation that is de-  
scribed in, and that executed the within instrument, and acknowledged to me that such  
corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my official signature and affixed  
my notarial seal the day and year first above written.

My commission expires: 7-5-72

Mary Senzek  
Notary Public

\* \* \* \* \*

MARY SENZEK  
Notary Public, BURLEIGH COUNTY, N. Dak.  
My Commission Expires JULY 5, 1972.

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

CORPORATION

On this \_\_\_\_\_ day of \_\_\_\_\_, 1970, before me \_\_\_\_\_  
Notary Public, personally appeared \_\_\_\_\_  
known to me to be the \_\_\_\_\_ President (or the Secretary) of the corporation that is de-  
scribed in, and that executed the within instrument, and acknowledged to me that such  
corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my official signature and affixed  
my notarial seal the day and year first above written.

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public

\* \* \* \* \*

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

INDIVIDUAL

On this \_\_\_\_\_ day of \_\_\_\_\_, 1970, before me personally appeared \_\_\_\_\_  
known to me to  
be the person \_\_\_\_\_ described in and who executed the within and foregoing instrument,  
and acknowledged to me that \_\_\_\_\_ executed the same.

IN WITNESS WHEREOF, I have hereunto set my official signature and affixed  
my notarial seal the day and year first above written.

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public

\* \* \* \* \*

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

INDIVIDUAL

On this \_\_\_\_\_ day of \_\_\_\_\_, 1970, before me personally appeared \_\_\_\_\_  
known to me to  
be the person \_\_\_\_\_ described in and who executed the within and foregoing instrument,  
and acknowledged to me that \_\_\_\_\_ executed the same.

IN WITNESS WHEREOF, I have hereunto set my official signature and affixed  
my notarial seal the day and year first above written.

My commission expires: \_\_\_\_\_

\_\_\_\_\_  
Notary Public

EXHIBIT "A"

Attached to and made a part of that Communitization Agreement dated June 12, 1969 covering the Heath formation under the following described lands in Stark County, North Dakota:

Township 140 North, Range 97 West

Section 15: S $\frac{1}{2}$

OIL AND GAS LEASES

Lessor: The Home-Stake Royalty Corporation

Lessee: North American Royalties, Inc.

Dated: June 15, 1964

Recorded: August 5, 1964, Book A109, page 343

Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Primary term extended by Amendment of Oil and Gas Lease dated June 6, 1969, and recorded June 17, 1969, in Book A-133 Misc., page 221.

Lessor: The Home-Stake Oil and Gas Company

Lessee: North American Royalties, Inc.

Dated: June 15, 1964

Recorded: August 5, 1964, Book A109, page 345

Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Primary term extended by Amendment of Oil and Gas Lease dated June 6, 1969, and recorded June 17, 1969, in Book A-133 Misc., page 222.

Lessor: The First Trust Company of St. Paul as Trustee for Johanna Maud Hill, Louis Fors Hill and Mari Hill

Lessee: North American Royalties, Inc.

Dated: December 13, 1969

Recorded: February 4, 1970, Book A137 Misc., page 305

Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Lessor: E. O. Hancock  
Lessee: North American Royalties, Inc.  
Dated: December 13, 1969  
Recorded: January 15, 1970, Book A137, page 57  
Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Lessor: Frank Rummel, Jr. and Margaret Rummel, husband and wife  
Lessee: R. E. Moore  
Dated: July 5, 1969  
Recorded: July 14, 1969, Book A133, page 641  
Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Lessor: Jacob Schank and Kathryn Schank, husband and wife  
Lessee: North American Royalties, Inc.  
Dated: May 28, 1969  
Recorded: June 30, 1969, Book A133, page 373  
Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Lessor: Sebastian A. Mischel and Odessa Mischel, husband and wife  
Lessee: North American Royalties, Inc.  
Dated: May 28, 1969  
Recorded: July 29, 1969, Book A134, page 23  
Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Lessor: John A. Hoff and Irene M. Hoff, husband and wife  
Lessee: North American Royalties, Inc.  
Dated: May 28, 1969  
Recorded: July 29, 1969, Book A134, page 25  
Lands: Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

Lessor: Tillie Fischer, a widow  
 Lessee: North American Royalties, Inc.  
 Dated: June 2, 1969  
 Recorded: June 30, 1969, Book A133, page 375  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: E. F. Rakowski and Gladys M. Rakowski, husband and wife  
 Lessee: North American Royalties, Inc.  
 Dated: May 28, 1969  
 Recorded: December 29, 1969, Book A136, page 481  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Wm. Schatz and Lena Schatz, husband and wife  
 Lessee: North American Royalties, Inc.  
 Dated: June 2, 1969  
 Recorded: September 8, 1969, Book A134, page 525  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: George P. Ficek  
 Lessee: North American Royalties, Inc.  
 Dated: May 29, 1969  
 Recorded: June 19, 1969, Book A133, page 261  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: R. L. Higgins and Wilma T. Higgins, husband and wife  
 Lessee: Shell Oil Company  
 Dated: June 21, 1967  
 Recorded: August 28, 1967, Book A124, page 629  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Viola L. Younger  
 Lessee: North American Royalties, Inc.  
 Dated: December 13, 1969  
 Recorded: January 15, 1970, Book A137, page 49  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Emna L. Purves  
 Lessee: North American Royalties, Inc.  
 Dated: December 13, 1969  
 Recorded: January 15, 1970, Book A137, page 55  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Johnnie L. Service and C. T. Service, her husband  
 Lessee: North American Royalties, Inc.  
 Dated: December 13, 1969  
 Recorded: January 15, 1970, Book A137, page 53  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: William Rummel aka Wm. Rummel  
 Lessee: North American Royalties, Inc.  
 Dated: December 13, 1969  
 Recorded: February 3, 1970, Book A137, page 293  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Julian Toskey and Pearl Toskey, husband and wife  
 Lessee: North American Royalties, Inc.  
 Dated: December 13, 1969  
 Recorded: April 1, 1970, Book A138, page 237  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$



Lessor: Virginia C. Moseley, formerly Virginia C. Dick  
 Lessee: North American Royalties, Inc.  
 Dated: May 28, 1969  
 Recorded: November 24, 1969, Book A136 Misc., page 41  
 Lands: Township 140 North, Range 96 West  
 Section 15: SW $\frac{1}{4}$

Lessor: Virginia C. Moseley, formerly Virginia C. Dick, and  
 Frederick S. Moseley, Jr., Trustees  
 Lessee: North American Royalties, Inc.  
 Dated: May 28, 1969  
 Recorded: November 24, 1969, Book A136, page 43  
 Lands: Township 140 North, Range 96 West  
 Section 15: SW $\frac{1}{4}$

Lessor: Frank Veverka aka Frank Veverka Jr., a single man  
 Lessee: R. E. Moore  
 Dated: July 17, 1967  
 Recorded: August 11, 1967, Book A124, page 485  
 Lands: Township 140 North, Range 96 West  
 Section 15: SW $\frac{1}{4}$

Lessor: Joseph Kralicek, Jr. aka Joe Kralicek Jr. and Josephine  
 Kralicek, husband and wife  
 Lessee: R. E. Moore  
 Dated: July 21, 1967  
 Recorded: August 11, 1967, Book A124, page 489  
 Lands: Township 140 North, Range 96 West  
 Section 15: SW $\frac{1}{4}$

Lessor: Norbert J. Muggli and Doris Muggli, husband and wife  
 Lessee: Cardinal Petroleum Company  
 Dated: June 9, 1969  
 Recorded: Book A134, page 77, August 4, 1969  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Ward M. Kirby and Virginia J. Kirby, husband and wife  
 Lessee: Cardinal Petroleum Company  
 Dated: June 9, 1969  
 Recorded: Book A134, page 217  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Kathleen Kellogg, Trustee and Theodore Kellogg and  
 Kathleen Kellogg, husband and wife  
 Lessee: Cardinal Petroleum Company  
 Dated: June 9, 1969  
 Recorded: Book A134, page 79  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Margaret H. Rummel  
 Lessee: Cardinal Petroleum Company  
 Dated: June 9, 1969  
 Recorded: Book A134, page 215  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Shirley Ruth Shapiro and Sidney K. Shapiro, wife and husband  
 Lessee: Cardinal Petroleum Company  
 Dated: June 9, 1969  
 Recorded: Book A134, page 73  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Evelyn Margaret Rauch and Lloyd Rauch, her husband  
 Lessee: Cardinal Petroleum Company  
 Dated: June 9, 1969  
 Recorded: Book A134, page 75  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: D. E. Balch  
 Lessee: Cardinal Petroleum Company  
 Dated: June 9, 1969  
 Recorded: Book A134, page 71  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Estate of William R. Reichert, deceased  
 Lessee: Cardinal Petroleum Company  
 Dated: June 6, 1969  
 Recorded: Book A133, page 489  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Elizabeth Landis  
 Lessee: J. Hiram Moore  
 Dated:  
 Recorded:  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

Lessor: Gladys S. Landis, DeWitt Landis, Jr. and Charles E. Landis, each individually and as Independent Executors of the Will and of the Estate of Hugh DeWitt Landis, deceased  
 Lessee: J. Hiram Moore  
 Dated:  
 Recorded:  
 Lands: Township 140 North, Range 96 West  
 Section 15: SE $\frac{1}{4}$

UNLEASED MINERAL INTERESTS

Helmerich & Payne, Inc.	Undivided 15/64 mineral interest under <u>Township 140 North, Range 96 West</u> Section 15: SW $\frac{1}{4}$
Continental Oil Company	Undivided 3/64 mineral interest under <u>Township 140 North, Range 96 West</u> Section 15: SW $\frac{1}{4}$

Huston Huffman

Undivided  $\frac{3}{64}$  mineral interest under  
Township 140 North, Range 96 West  
Section 15: SW $\frac{1}{4}$

North American Royalties, Inc.

Undivided  $\frac{1}{8}$  mineral interest under  
Township 140 North, Range 96 West  
Section 15: S $\frac{1}{2}$

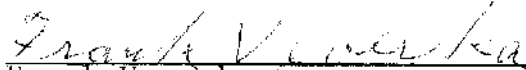
J. Hiram Moore

Undivided .9526 net mineral acre interest under  
Township 140 North, Range 96 West  
Section 15: SE $\frac{1}{4}$

TO WHOM IT MAY CONCERN:

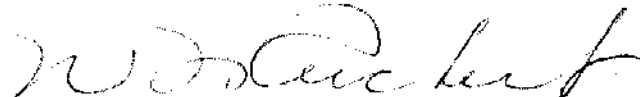
The undersigned, Frank Veverka, Dickinson, North Dakota, hereby nominates and appoints Joseph Kralicek, Jr., as my agent to act for me and in my behalf in connection with all hearings before the State Industrial Commission, Bismarck, North Dakota, relating to my mineral interest in the Southwest Quarter (SW $\frac{1}{4}$ ) of Section Fifteen (15), Township One Hundred Forty (140) North, Range Ninety-six (96) West of the Fifth Principal Meridian, Stark County, North Dakota.

Dated at Dickinson, North Dakota, this 18th day of August, 1970.

  
Frank Veverka

STATE OF NORTH DAKOTA     )  
                                  ss  
COUNTY OF STARK         )

On this 18th day of August, 1970, before me, a Notary Public within and for said county and state, personally appeared Frank Veverka, known to me to be the same person described in and who executed the within and foregoing instrument and severally acknowledged that he executed the same.

  
W. F. Reichert, Notary Public  
Stark County, North Dakota  
My commission expires May 1, 1976.

(SEAL)

780 Glenside Court East  
Oradell, New Jersey 07649  
July 28, 1970

State Industrial Commission of North Dakota  
State Capitol Building  
Bismarck, North Dakota

Subject: Oil Well Spacing on Section 15  
Township 140  
Range 96, Stark County  
North Dakota

Gentlemen:

As a mineral owner under the SE 1/4 of Section 15, we received a letter from North American Royalties, Inc., dated June 16, 1970, accompanying a communitization agreement for a spacing in the section such that the S 1/2 of the section be established as a spacing unit.

We wish to record our opposition to this proposal.

It is our belief that North American Royalties and its associate, Louis W. Hill have an obligation to mineral holders in the W 1/2 of Section 15 to drill in the NW 1/4 of Section 15, in an established W 1/2 of Section 15. This preferred spacing unit would take into account the North American Royalties interests in the NW 1/4 of Section 21 as well as in the NW 1/4 of Section 15.

In addition Cardinal Petroleum Company has previously obtained an approved permit to drill a well in the E 1/2 of Section 15 (with the Spacing Unit designated as the E 1/2).

It is our position that the Cardinal application for an E 1/2 Spacing unit be approved.

*Shirley Ruth Shapiro*  
Shirley Ruth Shapiro

*Sidney K. Shapiro*  
Sidney K. Shapiro  
2520 Huntington Avenue  
Minneapolis, Minnesota 55416

Yours very truly,

*Evelyn Margaret Rauch*  
Evelyn Margaret Rauch

*Lloyd Rauch*  
Lloyd Rauch



WILLIAM A. MILLER  
ALFRED S. PFAFF

MILLER & PFAFF  
ATTORNEYS  
SALEM, ILLINOIS  
62881  
July 2, 1970



TELEPHONE  
548-3306  
AREA CODE 618

North American Royalties, Inc.  
P. O. Box 1476  
Bismarck, North Dakota 58501

Gentlemen:

C  
O  
P  
Y  
Recently Dr. E. O. Hancock signed a Communitization Agreement covering oil properties in Township 140 North, Range 96 West communitizing the entire South half ( $S\frac{1}{2}$ ) of Section 15. Dr. Hancock owns mineral interests under the entire East half ( $E\frac{1}{2}$ ) of Section 15, but owns none in the West half ( $W\frac{1}{2}$ ).

Subsequent to receipt of the contract from your company, which he signed and returned to you, he received a letter from Cardinal Petroleum Company in which they announced that they were purposing to communitize the East half ( $E\frac{1}{2}$ ) of Section 15 rather than the South half ( $S\frac{1}{2}$ ).

It was learned also from them that they had drilled a well in the Southwest Quarter ( $SW\frac{1}{4}$ ) of the Southeast Quarter ( $SE\frac{1}{4}$ ), which is on the property owned by Dr. Hancock.

With this further information, Dr. Hancock feels that it would be to his advantage to communitize the East half ( $E\frac{1}{2}$ ) rather than the South half ( $S\frac{1}{2}$ ) of Section 15. He feels that his action in signing the first agreement was perceived and made without sufficient information and without any knowledge of the fact that Cardinal had drilled a well or that there was any question as to the location of the unit.

Dr. Hancock, therefore, wishes to advise that he prefers, for his part, the communitizing of the East half ( $E\frac{1}{2}$ ) of Section 15.

Copies of this letter are being sent to Cardinal Petroleum Company, North Dakota Industrial Commission and Dr. Edwin A. Noble.

Yours very truly,

Alfred S. Pfaff

WILLIAM A. MILLER  
ALFRED S. PFAFF

MILLER & PFAFF  
ATTORNEYS  
SALEM, ILLINOIS  
62881  
July 2, 1970

TELEPHONE  
548-3306  
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Bismarck, North Dakota 58501

Gentlemen:

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Subsequent to receipt of the contract from your company, which he signed and returned to you, he received a letter from Cardinal Petroleum Company in which they announced that they were purposing to communitize the East half ( $E\frac{1}{2}$ ) of Section 15 rather than the South half ( $S\frac{1}{2}$ ).

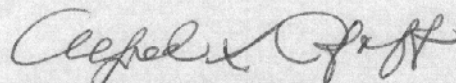
It was learned also from them that they had drilled a well in the Southwest Quarter ( $SW\frac{1}{4}$ ) of the Southeast Quarter ( $SE\frac{1}{4}$ ), which is on the property owned by Dr. Hancock.

With this further information, Dr. Hancock feels that it would be to his advantage to communitize the East half ( $E\frac{1}{2}$ ) rather than the South half ( $S\frac{1}{2}$ ) of Section 15. He feels that his action in signing the first agreement was perceived and made without sufficient information and without any knowledge of the fact that Cardinal had drilled a well or that there was any question as to the location of the unit.

Dr. Hancock, therefore, wishes to advise that he prefers, for his part, the communitizing of the East half ( $E\frac{1}{2}$ ) of Section 15.

Copies of this letter are being sent to Cardinal Petroleum Company, North Dakota Industrial Commission and Dr. Edwin A. Noble.

Yours very truly,

  
Alfred S. Pfaff

ASP:bd



4909 Bywood West  
Minneapolis, Minn. 55436  
July 1, 1970



State Industrial Commission of North Dakota  
State Capital Building  
Bismarck, North Dakota 58501

Re: Oil Well Spacing on Sec. 15, Twp. 140,  
Range 96, Stark county, N. D.

Gentlemen:

This pertains to the petition of North American Royalties, Inc. requesting that the spacing in this section be changed from the North and South spacing originally approved by the permit granted to Cardinal Petroleum Co. to drill, to an East and West spacing. This would change the spacing unit from the  $E\frac{1}{2}$  of Section 15 as originally approved to the  $S\frac{1}{2}$ .

I am a native and former resident of Dickinson, N. D., and one of the owners of minerals under the  $SE\frac{1}{4}$  of Section 15 which I have held since 1951. I hold no mineral acreage in the  $SW\frac{1}{4}$  of Section 15 and have no participative interest in any other wells.

This is to express my opposition to the proposal of North American Royalties to change the spacing unit from that specified in the drilling permit.

It is my understanding that the reason for the petition of North American Royalties is due to their holdings in the  $SW\frac{1}{4}$  of Section 15. It is also my understanding that North American Royalties has brought in a producing well in the  $NW\frac{1}{4}$  of Section 22 (the quarter immediately to the south of the quarter it is attempting to have included in the revised spacing unit). It is further my understanding that North American Royalties and its partner Louis Hill owns the leasehold interests in the  $NW\frac{1}{4}$  of Section 15 (which is the quarter immediately to the north of the quarter they seek to have included in the revised spacing unit.) By controlling the quarter sections immediately to the south and immediately to the north of the quarter in question ( $SW\frac{1}{4}$  of 15) would seem to give them full protection, with no basis for revising the spacing unit.

From the standpoint of the equities of the situation, it would seem that these points should be pertinent:

1. When Cardinal applied for, was granted a permit for the  $E\frac{1}{2}$  of Section 15, invested their money and drilled on that basis, that should settle the matter. Otherwise the obvious course for adjacent landowners, after the outcome of a well is known, is to request that the spacing unit be changed to their advantage.

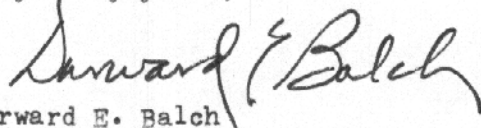
2. I would suspect that if the well in the SE $\frac{1}{4}$  of Sec. 15 had been a dry hole, North American Royalties would have had no interest in an East-West spacing.

3. It would seem that North American Royalties should adhere to the North-south spacing, and now drill on the NW $\frac{1}{4}$  of Sec. 15 for the protection and interests of itself and other mineral owners in the W $\frac{1}{2}$  of Section 15.

It may also have some relevance that until now, no drilling has been done on our property in the 19 years we have held it, including the years when it was under lease to North American Royalties with the lease permitted to lapse without any drilling being undertaken.

It is my strong hope and request that this Commission support the position of the State Geologist who designated the E $\frac{1}{2}$  of Sec. 15 as the spacing unit when the drilling permit was granted, and that the petition of North American Royalties to change the spacing unit, after a producing well has been brought in, be denied.

Very truly yours,

  
Durward E. Balch

R. L. HIGGINS  
P. O. Box 186  
SALEM, ILLINOIS 62881

30 June, 1970

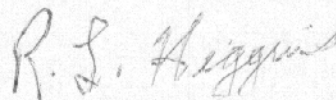
North Dakota Industrial Commission  
State Capitol Building  
Bismarck, North Dakota 58501

re-Application of Cardinal Petroleum  
Company for an Order Pooling all in-  
terest in the Spacing Unit Described as  
the  $E\frac{1}{2}$  of Section 15, Twp. 140 North,  
Rge. 96 West, in the Dickinson-Heath  
Pool, Stark County, North Dakota

Gentlemen:

With the intention to cooperate and expedite development I signed a  
Unitization agreement in favor of North American Royalties to pool the  
south half of Section 15-140N-96W which I would like to withdraw and  
concur with the above captioned application which is to the best interest  
of the mineral holders under this tract.

Yours truly



R. L. HIGGINS

RLH:ceh

CC: North American Royalties, Inc.  
P. O. Box 1476  
BISMARCK, NORTH DAKOTA 58501

CARDINAL DRILLING COMPANY  
P. O. Box 1077  
Billings, Montana 59103



June 30, 1970

North Dakota Industrial Commission  
Bismarck, North Dakota 58501

Gentlemen:

We are writing in regard to the application of North American Royalties for East-West spacing in Section 15, Township 140, Range 96.

We have approximately 10 mineral acres under this and the three adjoining eighties in Section 14. We have this land under lease from North American Royalties for 5 years before they took their last lease about a year ago. During this period this company never did anything whatever to develop the land for oil and gas but did develop nearby land.

As we understand it, North American Royalties wants this spacing because it claims that the Southwest Quarter of Section 15 will be drained by the well that is in the Southeast Quarter. As we also understand, the North American Royalties either has or has recently held leases on the quarters on the South (where the Wolf well, a good producer, is located), on the West, and on the North. Thus, it seems that this company has this Southwest quarter of Section 15 surrounded on three of its four sides by lands which they either have produced or have a right to develop.

For that reason it seems to us that North American Royalties has protection on three sides and had not ought to expect share in the development on the remaining fourth side of its quarter. When we gave our last lease to North American Royalties we were informed and understood that we would receive one-eighth of the oil produced on the land leased. We were not told at that time that North American Royalties would apply for a spacing permit that would only give us one-sixteenth of such oil. We think it was the duty of North American Royalties, who has been in the area quite a while, if it intended to attempt to cut down our production to one-sixteenth instead of one-eighth which their lease provided, to have told us so.

Yours sincerely,

*Julia Tsch, Pearl Isoky.*

June 30, 1970

North Dakota Industrial Commission  
Bismarck, North Dakota 58501



Gentlemen:

We are writing in regard to the application of North American Royalties for East-West spacing in Section 15, Township 140, Range 96.

We have approximately 10 mineral acres under this and the three adjoining eighties in Section 14. We have this land under lease from North American Royalties for        years before they took their last lease about a year ago. During this period this company never did anything whatever to develop the land for oil and gas but did develop nearby land.

As we understand it, North American Royalties wants this spacing because it claims that the Southwest Quarter of Section 15 will be drained by the well that is in the Southeast Quarter. As we also understand, the North American Royalties either has or has recently held leases on the quarters on the South (where the Wolf well, a good producer, is located), on the West, and on the North. Thus, it seems that this company has this Southwest quarter of Section 15 surrounded on three of its four sides by lands which they either have produced or have a right to develop.

For that reason it seems to us that North American Royalties has protection on three sides and had not ought to expect share in the development on the remaining fourth side of its quarter. When we gave our last lease to North American Royalties we were informed and understood that we would receive one-eighth of the oil produced on the land leased. We were not told at that time that North American Royalties would apply for a spacing permit that would only give us one-sixteenth of such oil. We think it was the duty of North American Royalties, who has been in the area quite a while, if it intended to attempt to cut down our production to one-sixteenth instead of one-eighth which their lease provided, to have told us so.

Yours sincerely,

*Sebastian A. Mischel*      *Richardson, N. Dak.*



June 30, 1970

North Dakota Industrial Commission  
Bismarck, North Dakota 58501



Gentlemen:

We are writing in regard to the application of North American Royalties for East-West spacing in Section 15, Township 140, Range 96.

We have approximately 5 mineral acres under this and the three adjoining eighties in Section 14. We have this land under lease from North American Royalties for 5 years before they took their last lease about a year ago. During this period this company never did anything whatever to develop the land for oil and gas but did develop nearby land.

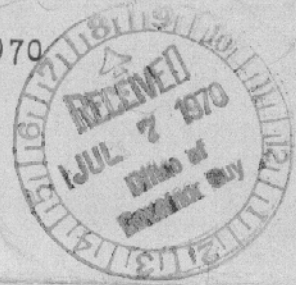
As we understand it, North American Royalties wants this spacing because it claims that the Southwest Quarter of Section 15 will be drained by the well that is in the Southeast Quarter. As we also understand, the North American Royalties either has or has recently held leases on the quarters on the South (where the Wolf well, a good producer, is located), on the West, and on the North. Thus, it seems that this company has this Southwest quarter of Section 15 surrounded on three of its four sides by lands which they either have produced or have a right to develop.

For that reason it seems to us that North American Royalties has protection on three sides and had not ought to expect share in the development on the remaining fourth side of its quarter. When we gave our last lease to North American Royalties we were informed and understood that we would receive one-eighth of the oil produced on the land leased. We were not told at that time that North American Royalties would apply for a spacing permit that would only give us one-sixteenth of such oil. We think it was the duty of North American Royalties, who has been in the area quite a while, if it intended to attempt to cut down our production to one-sixteenth instead of one-eighth which their lease provided, to have told us so.

Yours sincerely,

*John d. Hoff*  
*Irene M. Hoff*

June 30, 1970



North Dakota Industrial Commission  
Bismarck, North Dakota 58501

Gentlemen:

We are writing in regard to the application of North American Royalties for East-West spacing in Section 15, Township 140, Range 96.

We have approximately five mineral acres under this and the three adjoining eighties in Section 14. We have this land under lease from North American Royalties for 5 years before they took their last lease about a year ago. During this period this company never did anything whatever to develop the land for oil and gas but did develop nearby land.

As we understand it, North American Royalties wants this spacing because it claims that the Southwest Quarter of Section 15 will be drained by the well that is in the Southeast Quarter. As we also understand, the North American Royalties either has or has recently held leases on the quarters on the South (where the Wolf well, a good producer, is located), on the West, and on the North. Thus, it seems that this company has this Southwest quarter of Section 15 surrounded on three of its four sides by lands which they either have produced or have a right to develop.

For that reason it seems to us that North American Royalties has protection on three sides and had not ought to expect share in the development on the remaining fourth side of its quarter. When we gave our last lease to North American Royalties we were informed and understood that we would receive 3/16 ~~one-eighth~~ of the oil produced on the land leased. We were not told at that time that North American Royalties would apply for a spacing permit that would only give us 5 of 3/16 ~~one-sixteenth~~ of such oil. We think it was the duty of North American Royalties, who has been in the area quite a while, if it intended to attempt to cut down our production to 5 of 3/16 ~~one-sixteenth~~ instead of 3/16 ~~one-eighth~~ which their lease provided, to have told us so.

Yours sincerely,

*Frank Rummel and Margaret Rummel*  
(Mr. and Mrs. Frank Rummel)



Box 1097  
Dickinson, North Dakota 58601  
June 26, 1970

State Industrial Commission of North Dakota  
State Capitol Building  
Bismarck, North Dakota 58501

re: Oil Well Spacing on Sec. 15,  
Twp. 140, Rge. 96, Stark County,  
North Dakota

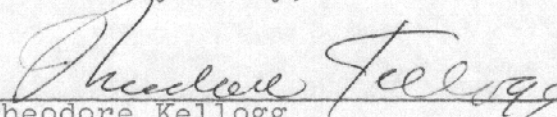
Gentlemen:

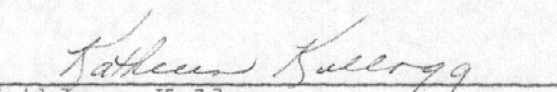
This letter is in reference to proposal of North American Royalties, Inc., set forth in letter of June 16, 1970, to mineral owners in the above premises, proposing that spacing in this section be east and west so that the  $S\frac{1}{2}$  of Section 15 will be established as a spacing unit.

As an owner of minerals under the  $SE\frac{1}{4}$  of such section in which a well is located, we desire to state our opposition to this proposal.

It is our understanding the North American Royalties, Inc. makes such proposal in order to protect the rights of mineral and leasehold owners under the  $SW\frac{1}{4}$  of such section. It is also our understanding that this company owns all or a substantial leasehold interest in the Wolfe well, which is situated in the quarter-section immediately south of such  $SW\frac{1}{4}$  (the  $NW\frac{1}{4}$  of Section 21), and that this company, together with its associate, Louis W. Hill, owns the leasehold interest in the quarter-section immediately north of such  $SW\frac{1}{4}$  (that is, the  $NW\frac{1}{4}$  of Section 15). It would appear under these circumstances that if there is oil under the  $SW\frac{1}{4}$  of Section 21, that these leaseholds bracketing on the north and south furnish adequate protection, and that North American Royalties and Louis W. Hill have an obligation to drill in the  $SE\frac{1}{4}NW\frac{1}{4}$  of Section 15 for the development and protection of itself and other mineral owners in the  $W\frac{1}{2}$  of Section 15.

Yours very truly,

  
Theodore Kellogg

  
Kathleen Kellogg



P. O. Box 1097  
Dickinson, North Dakota  
58601

June 29, 1970

State Industrial Commission of  
North Dakota  
State Capitol  
Bismarck, North Dakota 58501

Re: Oil Wells Spacing on Section 15,  
Township 140, Range 96, Stark  
County, North Dakota

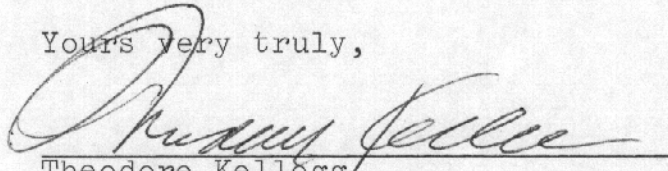
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Gentlemen:

In my letter of June 26, 1970, stating objection to the proposal of North American Royalties, Inc. for East-West spacing in this section, there is an error in the description in the next to the last line in the letter. The description "SE-1/4 NW-1/4" should be changed to just "NW-1/4".

Thank you for making this correction.

Yours very truly,

  
Theodore Kellogg

TK:pml

OFFICE OF  
AREA VICE PRESIDENT

**NORTH AMERICAN ROYALTIES, INC.**



OIL AND GAS OPERATIONS • ROCKY MOUNTAIN AREA  
PROVIDENT LIFE BUILDING • P. O. BOX 1476

BISMARCK, N. D. 58501

June 18, 1970

*Case  
#1004*



The Industrial Commission  
of the State of North Dakota  
State Capitol Building  
Bismarck, North Dakota

Gentlemen:

North American Royalties, Inc. respectfully requests the Commission to conduct a hearing on July 21, 1970 for the purpose of issuing an order pooling all interests in the S $\frac{1}{2}$  of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota.

There are separately owned interests in this spacing unit, and some of the owners of said interests have not voluntarily pooled their interests for the development and operation of such spacing unit. For your information a well located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$  Section 15, Township 140 North, Range 96 West is presently being completed as a Heath producer.

Very truly yours,

NORTH AMERICAN ROYALTIES, INC.

By: Arthur C. Bauer

ACB:ms

cc: Louis W. Hill, Jr.  
Cardinal Petroleum Company  
J. Hiram Moore  
Helmerich & Payne, Inc.  
Huston Huffman  
Continental Oil Company

June 25 - 1970

I have a real interest in the E  $\frac{1}{2}$  of  
section 15 - Township 140 Range 96  
and if the E  $\frac{1}{2}$  was Designated  
as the spacing unit why should  
we change it I am the ~~owner~~<sup>owner</sup> of  
the land pay taxes I should have  
~~something to say~~<sup>something to say</sup>.  
I think I am the one that has  
to say how it should be space  
and I want the E  $\frac{1}{2}$  for the  
spacing unit why should some  
one else get the profit and I pay taxes

Jacob Schank

Kathrena Schank

STATE OF NORTH DAKOTA

IN DISTRICT COURT

COUNTY OF BURLEIGH

FOURTH JUDICIAL DISTRICT

Cardinal Petroleum Company,  
Appellant,

vs.

William L. Guy, Governor, Helgi  
Johanneson, Attorney General, and  
Arne Dahl, Commissioner of Agri-  
culture, all as members of the North  
Dakota Industrial Commission, Helgi  
Johanneson, as Attorney General of  
North Dakota, and North American  
Royalties, Inc.,

Respondents.

CERTIFICATE OF RECORD ON  
APPEAL TO DISTRICT COURT

Civil #21191

CASE 1004

ORDER 1082

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION  
TO CONSIDER THE APPLICATION OF NORTH AMERICAN ROYALTIES, INC.,  
FOR AN ORDER POOLING ALL INTERESTS IN THE DICKINSON-HEATH IN THE  
S/2 OF SECTION 15, TOWNSHIP 140 NORTH, RANGE 96 WEST, STARK COUNTY,  
NORTH DAKOTA.

and

CASE 1005

ORDER 1082

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION  
TO CONSIDER THE APPLICATION OF CARDINAL PETROLEUM COMPANY FOR  
AN ORDER POOLING ALL INTERESTS IN THE DICKINSON-HEATH IN THE E/2  
OF SECTION 15, TOWNSHIP 140 NORTH, RANGE 96 WEST, STARK COUNTY,  
NORTH DAKOTA.

TO THE CLERK OF THE DISTRICT COURT OF THE COUNTY OF  
BURLEIGH IN THE FOURTH JUDICIAL DISTRICT OF THE STATE OF NORTH  
DAKOTA:

I, Bonnie Chase, Secretary of the North Dakota Industrial Commission, do  
hereby certify that the following papers and documents constitute a full and com-  
plete record, insofar as available, filed in connection with the above entitled  
matters before the North Dakota Industrial Commission:

CASE 1004:

I

Application for Hearing by North American Royalties, Inc., dated June 18, 1970.

II

Transcript of Testimony taken in Cases 1004 and 1005 at the North Dakota Industrial Commission Hearing held August 20, 1970.

III

North American Royalties Exhibits 1 through 14 introduced at hearing before North Dakota Industrial Commission on August 20, 1970.

IV

Letter from D. H. Canfield, Manager of Exploration, Helmerich & Payne, Inc., Tulsa, Oklahoma, dated August 17, 1970.

V

Statement of Frank Veverka, Dickinson, North Dakota, dated August 18, 1970.

VI

Telegram from Louis W. Hill, Jr., dated August 18, 1970.

VII

Telegram from Huston Huffman, Oklahoma City, Oklahoma, dated August 18, 1970.

VIII

Copy of Commission's Order No. 1082, issued in Cases 1004 and 1005, dated September 8, 1970.

IX

Notice of Appeal on behalf of Cardinal Petroleum Company, dated September 24, 1970.

X

Copy of the Certification of Costs of Transcript on Appeal sent to John R. Davidson and Donald K. Roberts, Attorneys for Appellant.

CASE 1005

XI

Application for Hearing by Cardinal Petroleum Company dated June 22, 1970.

XII

Cardinal Petroleum Company Exhibits 1 through 25 and exhibit 27 introduced at hearing before North Dakota Industrial Commission on August 20, 1970.

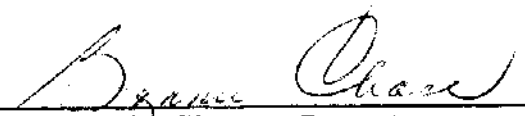
XIII

Numerous letters received by the Commission relative to these matters.

XIV

Cases 1004 and 1005 were consolidated for hearing. Therefore, the transcript of testimony, the order and the Notice of Appeal referred to in Case 1004 are likewise applicable to Case 1005.

I further certify that the copy of the North Dakota Industrial Commission Order 1082, referred to herein, is a true and correct copy of this Order as presently filed in the Oil Order Book of the North Dakota Industrial Commission in the Office of the Governor, State Capitol, Bismarck, North Dakota.

  
\_\_\_\_\_  
Mrs. Bonnie Chase, Secretary  
North Dakota Industrial Commission  
December 3, 1970

STATE OF NORTH DAKOTA

IN DISTRICT COURT

COUNTY OF BURLEIGH

FOURTH JUDICIAL DISTRICT

Jacob Schank, Kathryn Schank, Ward  
M. Kirby, Theodore Kellogg, and  
E. F. Rakowski,

Appellants,

vs.

CERTIFICATE OF RECORD ON  
APPEAL TO DISTRICT COURT

North Dakota Industrial Commission;  
Gerald W. VandeWalle, Assistant Attorney  
General; North American Royalties, Inc.,  
a corporation; Louis W. Hill, Jr.; Cardinal  
Petroleum Company, a corporation; Janet  
M. Reichert; Joe Kralich, Jr.; Josephine  
Kralicek; Frank Veverka, Jr.; Continental  
Oil Company, a corporation; Durvand E.  
Balch; Frank Rummel and Norbert J.  
Muggli,

Civil #21206

Respondents.

CASE 1004  
ORDER 1082

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION  
TO CONSIDER THE APPLICATION OF NORTH AMERICAN ROYALTIES, INC.,  
FOR AN ORDER POOLING ALL INTERESTS IN THE DICKINSON-HEATH IN THE  
S/2 OF SECTION 15, TOWNSHIP 140 NORTH, RANGE 96 WEST, STARK COUNTY,  
NORTH DAKOTA

and

CASE 1005  
ORDER 1082

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION  
TO CONSIDER THE APPLICATION OF CARDINAL PETROLEUM COMPANY FOR  
AN ORDER POOLING ALL INTERESTS IN THE DICKINSON-HEATH IN THE E/2  
OF SECTION 15, TOWNSHIP 140 NORTH, RANGE 96 WEST, STARK COUNTY,  
NORTH DAKOTA.

TO THE CLERK OF THE DISTRICT COURT OF THE COUNTY OF BURLEIGH  
IN THE FOURTH JUDICIAL DISTRICT OF THE STATE OF NORTH DAKOTA:

I, Bonnie Chase, Secretary of the North Dakota Industrial Commission, do hereby certify that the following papers and documents constitute a full and complete record, insofar as available, filed in connection with the above entitled matters before the North Dakota Industrial Commission:

I

Notice of Appeal on behalf of Appellants, dated October 8, 1970.

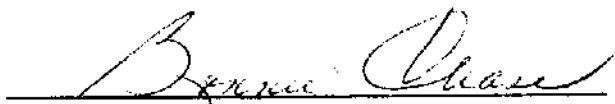
II

Copy of Commission's Order No. 1082, issued in Cases 1004 and 1005, dated September 8, 1970.

III

The transcript of testimony and the exhibits in these matters were certified to the Court in Cardinal Petroleum Company v. William L. Guy, et al., Civil #21191 and therefore are already before the Court. It is our understanding a motion has been made to consolidate this appeal and the appeal in Civil #21191 for hearing.

I further certify that the copy of the North Dakota Industrial Commission Order No. 1082, referred to herein, is a true and correct copy of this Order as presently filed in the Oil Order Book of the North Dakota Industrial Commission in the Office of the Governor, State Capitol, Bismarck, North Dakota.

  
(Mrs.) Bonnie Chase, Secretary  
North Dakota Industrial Commission  
December 3, 1970



INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA

CARDINAL PETROLEUM COMPANY

ORDER NO. 1082

APPELLANT,

CASES NOS. 1004 & 1005

VS.

WILLIAM L. GUY, Governor, HELGI JOHANNESON, Attorney General, and ARNE DAHL, Commissioner of Agriculture, as members of the North Dakota Industrial Commission, HELGI JOHANNESON, as Attorney General of North Dakota, and NORTH AMERICAN ROYALTIES, INC.

CERTIFICATION OF COST  
OF TRANSCRIPT ON APPEAL

CASE 1004: IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF NORTH AMERICAN ROYALTIES, INC., FOR AN ORDER POOLING ALL INTERESTS IN THE DICKINSON-HEATH IN THE S/2 OF SECTION 15, TOWNSHIP 140 NORTH, RANGE 96 WEST, STARK COUNTY, NORTH DAKOTA.

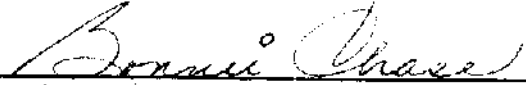
CASE 1005: IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF CARDINAL PETROLEUM COMPANY FOR AN ORDER POOLING ALL INTERESTS IN THE DICKINSON-HEATH IN THE E/2 OF SECTION 15, TOWNSHIP 140 NORTH, RANGE 96 WEST, STARK COUNTY, NORTH DAKOTA.

TO: John R. Davidson, Attorney for Appellant, Kurth, Jones, Davidson & Calton, 805 Midland Bank Building, Billings, Montana 59101 and Donald K. Roberts, Attorney, Cardinal Petroleum Company, Petroleum Building, Billings, Montana 59101:

I, Bonnie Chase, Secretary of the North Dakota Industrial Commission, do hereby certify that the cost of preparing the transcript of the appeal in the above proceedings is estimated to be \$140; that the cost for each additional copy of the transcript is estimated to be \$140.

Upon deposit of the above costs with the Industrial Commission, the transcript will be prepared and certified, under seal, to the District Court of Burleigh County, North Dakota, as provided by statute.

October 7, 1970

  
Bonnie Chase, Secretary  
North Dakota Industrial Commission

STATE OF NORTH DAKOTA

ss

AFFIDAVIT OF  
MAILING

COUNTY OF GRAND FORKS

I, Clarence B. Folsom, Jr., being first duly sworn upon oath,  
depose and say: That I am over twenty-one years of age; that on the  
16 day of Sept, 1970, I enclosed in separate envelopes true  
and correct copies of the attached Order No. 1082 of the North  
Dakota State Industrial Commission, and deposited the same in the  
United States Post Office at the University Station, University of  
North Dakota, Grand Forks, North Dakota, with postage thereon fully  
paid, directed to: As shown below  
all of whom filed written appearances at the hearing of the Industrial  
Commission on Case No. 1004 & .1005

Mr. Richard Zajie

1315 Meredith Dr.  
Bismarck, ND 58202

Mr. Ray Harrison

Box 1077  
Billings, MT 59103

Mr. Donald R. Roberts

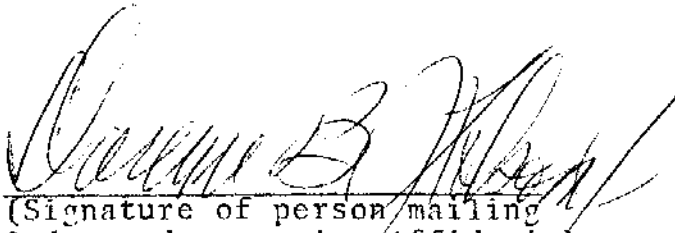
Box 1077  
Billings, MT 59103

Janet Reichert

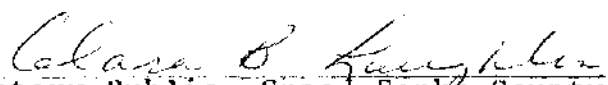
40 W. 4th  
Dickinson, ND 58601

Mr. Frank Rummel

Richardton, ND 58652

  
(Signature of person mailing  
Order and preparing Affidavit)

Subscribed and sworn to before  
me this 16<sup>th</sup> day of Sept., 1970.

  
Notary Public, Grand Forks County  
My commission expires 1 July 1971

1 STATE OF NORTH DAKOTA  
2 COUNTY OF BURLEIGH

IN DISTRICT COURT  
FOURTH JUDICIAL DISTRICT

3 APPEAL FROM ORDER OF  
4 THE INDUSTRIAL COMMISSION  
5 OF STATE OF NORTH DAKOTA

7 CARDINAL PETROLEUM COMPANY, )  
8 )  
9 Appellant, )  
10 vs. )  
11 WILLIAM L. GUY, Governor, HELGI )  
12 JOHANNESON, Attorney General and )  
13 ARNE DAHL, Commissioner of Agri- )  
14 culture, all as members of the )  
15 North Dakota Industrial Commission, )  
16 HELGI JOHANNESON, as Attorney General )  
17 of North Dakota, and NORTH AMERICAN )  
18 ROYALTIES, INC., )  
19 Respondents. )

Civil No. \_\_\_\_\_  
NOTICE OF APPEAL  
CASES NOS. 1004 & 1005  
ORDER NO. 1082



20 TO THE ABOVE-NAMED RESPONDENTS:

21 You will please take notice that Cardinal Petroleum Company,  
22 the Appellant above-named, feeling aggrieved by the Findings of Fact,  
23 Conclusions of Law and Order No. 1082 of the Industrial Commission of the  
24 State of North Dakota in their consolidated cases Nos. 1004 and 1005, which  
25 Order is dated the 8th day of September, 1970, wherein the Commission denied  
26 the motion of Appellant to dismiss the application of the Respondent North  
27 American Royalties, Inc., in Case No. 1004 requesting an order pooling all  
28 interests in the Dickinson-Heath pool in the S $\frac{1}{2}$  of Section 15, Township  
29 140 North, Range 96 West, Stark County, North Dakota, and in addition  
30 thereto and among other things, determined that no final decision will be  
31 made upon the application of Appellant for an order pooling all interests in  
32 the Dickinson-Heath pool in the E $\frac{1}{2}$  of Section 15, Township 140 North,  
Range 96 West, Stark County, North Dakota, until Appellant had drilled a

1 well in the NW<sup>1</sup>/<sub>4</sub> of said Section 15, hereby appeals to the District Court of  
2 Burleigh County, North Dakota, from said Findings of Fact, Conclusions of  
3 Law and Order, and said Appellant demands a review of all the evidence and  
4 Order of the Industrial Commission of the State of North Dakota and the  
5 Findings of Fact, Conclusions of Law and all proceedings of said Commission  
6 in said matter.

7  
8 Hereto attached is Appellant's Undertaking on Appeal and  
9 Appellant's Specifications of Error on appeal.

10 DATED this 24<sup>TH</sup> day of September, 1970.

11 CARDINAL PETROLEUM COMPANY

12  
13 By John R. Davidson  
14 John R. Davidson  
15 Attorney for Appellant  
16 KURTH, JONES, DAVIDSON & CALTON  
17 805 Midland Bank Building  
18 Billings, Montana 59101

19 Donald K. Roberts  
20 Donald K. Roberts, Attorney  
21 Cardinal Petroleum Company  
22 Petroleum Building  
23 Billings, Montana 59101  
24  
25  
26  
27  
28  
29  
30

1 STATE OF NORTH DAKOTA

IN DISTRICT COURT

2 COUNTY OF BURLEIGH

FOURTH JUDICIAL DISTRICT

3 APPEAL FROM ORDER OF

4 THE INDUSTRIAL COMMISSION

5 OF STATE OF NORTH DAKOTA

6  
7 CARDINAL PETROLEUM COMPANY, )

8 Appellant, )

Civil No. \_\_\_\_\_

9 vs. )

10 SPECIFICATIONS OF ERROR

11 WILLIAM L. GUY, Governor, HELGI )

JOHANNESON, Attorney General and )

12 ARNE DAHL, Commissioner of Agri- )

culture, all as members of the )

North Dakota Industrial Commission, )

13 HELGI JOHANNESON, as Attorney General )

14 of North Dakota, and NORTH AMERICAN )

ROYALTIES, INC., )

15 Respondents. )

16  
17 COMES NOW the Appellant and respectfully submits the  
18 following as its Specifications of Error to those Findings of Fact, Conclusions  
19 of Law and Order of the Industrial Commission of the State of North Dakota  
20 entered in its consolidated cases Nos. 1004 & 1005 as Order No. 1082,  
21 dated the 8th day of September, 1970:

22  
23 I

24 That the Findings of Fact were not in accordance with the  
25 evidence of the case.

26  
27 II

28 That the Conclusions of Law made by the North Dakota  
29 Industrial Commission are not supported by the Findings of Fact or the  
30 evidence of the case.

31  
32 III

That the Commission erred in its Order in not including under

1 the motion of Cardinal Petroleum Co. that North American Royalties, Inc.,  
2 Applicant in Case No. 1004, did not apply for or obtain a drilling permit  
3 designating a spacing unit as the S $\frac{1}{2}$  of Section 15, Township 140 North,  
4 Range 96 West, before making its application to involuntarily pool the  
5 S $\frac{1}{2}$  of Section 15.  
6

7 IV

8 That the Commission erred in finding that North American  
9 Royalties, Inc., is an "interested person" as the term is used in North  
10 Dakota's involuntary pooling statute, Section 38-08-08, NDCC.

11 V

12 That the Commission erred in failing to find that inasmuch as  
13 the Commission did not designate the specific spacing units in the  
14 Dickinson-Heath pool in its Order No. 920, that the State Geologist under  
15 Section 38-08-04, NDCC, and Rule 102 of the Commission's Rules and  
16 Regulations, does have the authority to regulate the spacing of wells.  
17

18 VI

19 That the Commission erred in failing to find that by the terms  
20 of its General Rules and Regulations, Form 1, entitled "Application To Drill",  
21 including instructions thereto, requires the permittee to designate the spacing  
22 unit on its application for a permit to drill a well and the granting of a permit  
23 in accordance with the application constitutes approval of the spacing unit  
24 requested by the permittee.  
25

26 VII

27 That the Commission erred in failing to recognize that Rule 102  
28 of the Commission's General Rules and Regulations requires the State Geologist  
29 to deny an application for a permit to drill a well if the approval of the  
30 permit would allow waste or violate correlative rights.  
31  
32

VIII

That the Commission erred in finding that Section 38-08-07 was applicable to the issues at hand; when in fact the purpose of said statute is to allow the Commission to space fields or pools as it did in its Order No. 920.

IX

That the Commission utilizing Section 38-08-07, NDCC, entered its Order No. 920 which spaced the Dickinson-Heath Pool on 320 acre spacing, designated well locations, but did not establish specific spacing units and the Commission is now in error in relying upon Section 38-08-07 or Order No. 920 to establish specific spacing units in Section 15.

X

That the Commission erred in not finding that the failure of North American Royalties, Inc., to establish or to attempt to establish the spacing unit in the  $S\frac{1}{2}$  of Section 15 precluded the Commission from hearing the application to involuntarily pool the  $S\frac{1}{2}$  of Section 15.

XI

That the Commission erred in denying the motion of Cardinal Petroleum Company to dismiss the application of North American Royalties, Inc. in its Case No. 1004.

XII

That the Commission erred in considering any evidence regarding the relative potential of oil productivity in various quarter sections of Section 15 in that under Section 38-08-08, NDCC, the only issues to be considered in these proceedings are (1) did Cardinal Petroleum Company attempt to voluntarily pool the interests under the  $E\frac{1}{2}$  of Section 15 and (2) are Cardinal Petroleum Company's costs incident to the drilling, completion and production of the well in the  $SW\frac{1}{4}SE\frac{1}{4}$  of Section 15 reasonable.

1 XIII

2 That the Commission erred in failing to find that North American  
3 Royalties, after early discovery of Cardinal Petroleum Company's intent to  
4 drill a well in the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 15, relying upon the E $\frac{1}{2}$  as the spacing  
5 unit, failed to do any act to prevent the well from being drilled by Cardinal  
6 Petroleum Company at its cost and are now estopped from claiming a contrary  
7 spacing unit after the well has been placed on production.  
8

9 XIV

10 That the Commission erred in failing to find that Cardinal  
11 Petroleum Company would lose a valuable property right by the granting of  
12 The North American Royalties, Inc. application in that Cardinal's interest in  
13 the well located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 15 would be depleted by 50% while  
14 the interest of North American Royalties, Inc. would virtually remain the  
15 same.  
16

17 XV

18 That the Commission erred in omitting from its Findings of Fact  
19 that the permit approved by the State Geologist for a well in the NW $\frac{1}{4}$  of  
20 Section 15 obtained by Cardinal Petroleum Company designates the W $\frac{1}{2}$  of  
21 Section 15 as the spacing unit.  
22

23 XVI

24 That the Commission erred in omitting from its Findings of Fact  
25 that Cardinal Petroleum Company would drill a well in the NW $\frac{1}{4}$  only if the  
26 spacing unit already designated by the State Geologist as the W $\frac{1}{2}$  of  
27 Section 15 is upheld.  
28

29 XVII

30 That the Commission erred in its Order of September 8, 1970,  
31 requiring Cardinal Petroleum Company to drill a well in the NW $\frac{1}{4}$  without a  
32 designated spacing unit since (1) it is impossible for Cardinal Petroleum



1 Company to seek support from other working interest owners in either the  
2 NE $\frac{1}{4}$  or the SW $\frac{1}{4}$  of Section 15 and (2) the Order requires Cardinal Petroleum  
3 Company to expend 100% of the cost of drilling and completing wells in  
4 Section 15 while only owning approximately 40% of the working interest.

5 DATED this 24<sup>TH</sup> day of September, 1970.

6 CARDINAL PETROLEUM COMPANY

7  
8 By John R. Davidson  
9 John R. Davidson  
10 Attorney for Appellant  
11 KURTH, JONES, DAVIDSON & CALTON  
12 805 Midland Bank Building  
13 Billings, Montana 59101

14 Donald K. Roberts  
15 Donald K. Roberts, Attorney  
16 CARDINAL PETROLEUM COMPANY  
17 Petroleum Building  
18 Billings, Montana 59101  
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IN DISTRICT COURT

FOURTH JUDICIAL DISTRICT

CARDINAL PETROLEUM COMPANY,  
Appellant,  
vs.  
WILLIAM L. GUY, Governor, HELGI  
JOHANNESEN, Attorney General and  
ARNE DAHL, Commissioner of Agri-  
culture, all as members of the  
North Dakota Industrial Commission,  
HELGI JOHANNESEN, as Attorney General  
of North Dakota, and NORTH AMERICAN  
ROYALTIES, INC.,  
Respondents.

Civil No. \_\_\_\_\_

### UNDERTAKING ON APPEAL

WILLIAM L. GUY, Governor, HELGI JOHANNESON, Attorney General and ARNE DAHL, Commissioner of Agriculture, all as members of the North Dakota Industrial Commission, HELGI JOHANNESON, as Attorney General of North Dakota, and NORTH AMERICAN ROYALTIES, INC.,

Respondents.

WHEREAS, an Order was made by the Industrial Commission of the State of North Dakota under date of September 8, 1970, denying the motion of the Appellant to dismiss the application of the Respondent North American Royalties, Inc., and further requiring the Appellant to, among other things, drill an oil and gas well in the NW $\frac{1}{4}$  of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota, without having a spacing unit previously designated; and

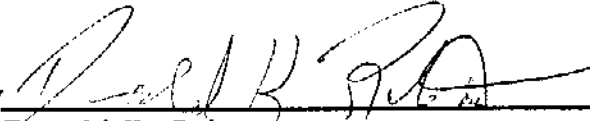
WHEREAS, the Appellant, feeling aggrieved by the said Order, has issued its Notice of Appeal therefrom to the District Court of Burleigh County, North Dakota, the county in which the hearing upon which the Order was based was held.

NOW, THEREFORE, the undersigned Appellant, as principal,  
does undertake, in the sum of Two Hundred and Fifty Dollars, (\$250.00),  
legal tender of the United States which is herewith deposited with the

1 Clerk of the District Court of Burleigh County, North Dakota, to pay all costs  
2 assessed against it in said appeal, and will prosecute said appeal without  
3 delay, payment of which it shall well and truly bind itself to be made to the  
4 State of North Dakota.

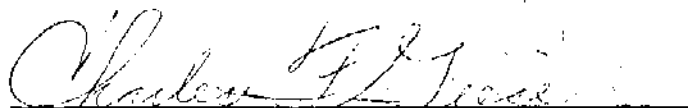
5 DATED this 24 day of September, 1970.

6 CARDINAL PETROLEUM COMPANY

7 By   
8 Donald K. Roberts,  
9 Its Attorney

10 STATE OF MONTANA )  
11 ) ss.  
12 COUNTY OF YELLOWSTONE)

13 On this 24th day of September, 1970, before me a notary  
14 public in and for the said County and State, personally appeared Donald K.  
15 Roberts, to me personally known, and known to me to be the attorney for the  
16 appellant herein, and that he did acknowledge for and on behalf of the  
17 appellant and he did execute the said instrument as his free act and deed.

18  
19   
20 Notary Public for the State of Montana  
21 Residing at Billings, Montana  
22 My commission expires: 5-20-71

23  
24 The foregoing undertaking and surety thereon are hereby  
25 approved this 2 day of \_\_\_\_\_, 1970.

26 BY THE COURT:  
27  
28  
29  
30  
31  
32

A circular postmark from Bismarck, North Dakota, dated SEP 28 1970. The text "BISMARCK NORTH DAKOTA" is curved along the top inner edge, and "SEP 28 1970" is in the center. The numbers 1 through 12 are arranged around the bottom inner edge.

FOURTH JUDICIAL DISTRICT

AFFIDAVIT OF SERVICE  
BY MAIL

Gerald W. Vandewalle  
Counsel for North Dakota Industrial Commission  
State Capitol Building  
Bismarck, North Dakota 58501



1 Theodore Kellogg  
2 Attorney at Law  
3 P. O. Box 1097  
4 Dickinson, North Dakota 58601

5 Dated this 25th day of September, 1970, at Billings,  
6 Montana.

7 /s/ EILEEN A. STOUT

8 Subscribed and sworn to before me this 25th day of  
9 September, 1970.

10 /s/ CHARLES W. JONES

11 Notary Public for the State of Montana  
12 Residing at Billings, Montana  
13 My commission expires: March 5, 1973  
14  
15  
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28  
29

HELMERICH & PAYNE, INC.  
Utica at Twenty-First  
Tulsa, Oklahoma 74114

August 17, 1970

Re: Case No. 1004  
Case No. 1005

Industrial Commission  
State Capitol Building  
Bismarck, North Dakota 58501

Gentlemen:

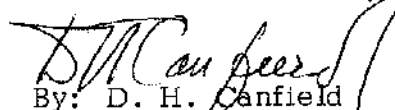
Helmerich & Payne, Inc. is the owner of an interest in the minerals underlying the SW $\frac{1}{4}$  Section 15-140N-96W, Stark County, North Dakota.

It is the opinion of Helmerich & Payne that proper spacing for the 15-15 Schank well completed in the SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 15-140N-96W should be the S $\frac{1}{2}$  of said section. For this reason Helmerich & Payne wish to advise the Industrial Commission that it strongly supports the application of North American Royalties, Inc. in Case No. 1004 for an order pooling all interests in the Dickinson-Heath in the S $\frac{1}{2}$  of Section 15-140N-96W, Stark County, North Dakota.

Helmerich & Payne further wishes to advise the Commission that it opposes the application of Cardinal Petroleum Company in Case No. 1005 for an order pooling all interests in the Dickinson-Heath in the E $\frac{1}{2}$  of Section 15-140N-96W, Stark County, North Dakota.

Very truly yours,

HELMERICH & PAYNE, INC.

  
By: D. H. Canfield  
Manager of Exploration

STATE OF NORTH DAKOTA

INDUSTRIAL COMMISSION

CASES NO. 1004 AND 1005

CASE NO. 1004

ON A MOTION OF THE COMMISSION TO )  
CONSIDER THE APPLICATION OF NORTH )  
AMERICAN ROYALTIES, INC., FOR AN )  
ORDER POOLING ALL INTERESTS IN THE )  
DICKINSON-HEATH IN THE S/2 OF SEC- )  
TION 15, TOWNSHIP 140 NORTH, RANGE )  
96 WEST, STARK COUNTY, NORTH DAK- )  
OTA. )

CASE NO. 1005

TRANSCRIPT

ON A MOTION OF THE COMMISSION TO )  
CONSIDER THE APPLICATION OF CARDIN- )  
AL PETROLEUM COMPANY FOR AN ORDER )  
POOLING ALL INTERESTS IN THE DICKIN- )  
SON-HEATH IN THE E/2 OF SECTION 15, )  
TOWNSHIP 140 NORTH, RANGE 96 WEST, )  
STARK COUNTY, NORTH DAKOTA. )

State Office Building  
State Capitol Grounds  
Bismarck, North Dakota  
August 20, 1970  
9:30 o'clock a.m.

Met pursuant to notice.

BEFORE NORTH DAKOTA INDUSTRIAL COMMISSION:

GOVERNOR WILLIAM L. GUY, Presiding.

APPEARANCES:

MR. RICHARD ZAJIC, appearing for North American Royalties, Inc.

MR. RAY HARRISON, appearing for Cardinal Petroleum Co.

MR. DONALD K. ROBERTS, appearing for Cardinal Petroleum Co.



1 MR. FRANK RUMMEL, appearing for himself.

2 MR. JOHN R. DAVIDSON, appearing for Cardinal Petrol-  
3 cum Co.

4 MR. RONALD D. RAGLAND, appearing for North American  
5 Royalties, Inc.

6 MR. C.B. THAMES, SR., appearing for North American  
7 Royalties, Inc.

8 MR. JOSEPH KRALICEK, JR., appearing for Joseph Kral-  
9 icek Jr. and Frank Veverka.

10 MR. ARTHUR C. BAUER, appearing for North American  
11 Royalties, Inc.

12 MR. TOM VOORHEES, appearing for Cardinal Petroleum  
13 Co.

14 MR. W. L. WALKER, appearing for Cardinal Petroleum Co.

15 MR. DURVAND E. BALCH, appearing for himself and North  
16 American Royalties, Inc.

17 MR. THEODORE KELLOGG, appearing for Mr. and Mrs.  
18 Jacob Schank, Mr. E. F. Rakowski, Mr. Ward M. Kirby,  
19 and himself.

20 DR. EDWIN A. NOBLE, appearing for the Commission.

21 MR. GERALD W. VANDEWALLE, appearing for the Com-  
22 mission.

23 MR. CHARLES TARR, appearing for Continental Oil Co.

24 MR. NORBERT MUGLEY, appearing for himself.  
25  
26  
27

1 GOVERNOR GUY: We have before us Case No. 1004, on a mo-  
2 tion of the Commission to consider the application of North Am-  
3 erican Royalties, Inc. for an order pooling all interests in the  
4 Dickinson-Heath in the S/2 of Section 15, T. 140N., R. 96W.,  
5 Stark County, North Dakota. We also have the following Case  
6 No. 1005, on a motion of the Commission to consider the appli-  
7 cation of Cardinal Petroleum Company for an order pooling all  
8 interests in the Dickinson-Heath in the E/2 of Section 15, T. 140  
9 N., R. 96W., Stark County, North Dakota. These two orders  
10 refer to the same case really...ah these two cases, I should  
11 say, refer to the same location in this field. We have a letter  
12 from Cardinal asking that both cases be heard at once. Will the  
13 representatives for North American Royalties indicate whether  
14 they want these cases to be heard together.

15 MR. THAMES: Governor Guy, C. B. Thames, representing  
16 North American Royalties. We have no objections to the consol-  
17 idation of these cases. We would suggest that the first case, as  
18 proponent that we would present our case and that Cardinal then  
19 would present its case, and the Commission would ultimately  
20 make its decision on that basis.

21 GOVERNOR GUY: All right, those who are here in the room who  
22 might testify in Case No. 1004 or 1005, please stand and take  
23 the oath. Do you solemnly swear to tell the truth, the whole  
24 truth and nothing but the truth?

1 ALL: I do.

2 GOVERNOR GUY: Proceed.

3 MR. THAMES: It please the Commission...

4 MR. ROBERTS: Mr. Chairman, before you...

5 GOVERNOR GUY: Yes?

6  
7 MR. ROBERTS: Don Roberts, Cardinal Petroleum Company in  
8 Billings. Before proceeding with North American's testimony,  
9 we have a motion to submit to the Commission. Cardinal, as a  
10 major working interest owner in the E/2 of Section 15 of 140-96  
11 and as you have pointed out, the applicant for an order pooling  
12 that E/2 of Section 15, and further as the operator of the well in  
13 question here today--the Shank well located in the SW SE of Sec-  
14 tion 15--we'd like, at this time, to move that the Commission  
15 dismiss North American Royalties' application--their application  
16 for an order pooling the S/2 of Section 15. In support of this ap-  
17 plication, Cardinal would like the following statement entered in-  
18 to the record: We believe it is necessary to enlighten the Com-  
19 mission as to the reason for our motion; to present to the Com-  
20 mission some of the chronology involved and what has led to this  
21 hearing. Cardinal Petroleum Company applied for a permit to  
22 drill a well in the SW SE of Section 15 of 140-96. In that applica-  
23 tion, the spacing unit was designated as the E/2 of Section 15.  
24 This application was made on March 25, 1970; the permit was ap-  
25 proved, as applied for, by the State Geologist on March 30th, 1970.  
26  
27

1 In that permit, the E/2 was designated as the spacing unit. Be-  
2 fore and after obtaining this permit, Cardinal and J. Hiram  
3 Moore, who are two of the working interest owners in the E/2 of  
4 Section 15, unsuccessfully attempted to voluntarily pool all the  
5 working interest owners within the E/2 of Section 15. The ef-  
6 fort was made because development in the Dickinson Field was  
7 descending toward NE. It was apparent that something had to be  
8 done to develop Section 15. After waiting for other working in-  
9 terest owners to do something, Cardinal took the initiative and  
10 obtained the drilling permit. After obtaining the drilling permit,  
11 a period of time elapsed in which we again tried to get every-  
12 body's cooperation, and finally in May of 1970, Cardinal and J.  
13 Hiram Moore drilled and completed in early June the 15-15  
14 Shank well as a commercial Heath Sand producer. Subsequent  
15 to the completion of that well, North American Royalties made  
16 application on June 18th, 1970, to this Commission to declare  
17 the S/2 as a pooled unit--their application was to involuntarily  
18 pool the S/2 of Section 15. This application made the statement  
19 that for the information of the Commission, there had been a well  
20 drilled in the SW SE of Section 15. They did not state whether  
21 or not they were involved in the drilling of the well, and as a mat-  
22 ter of fact, they were not. They refused to participate in the  
23 well. They asked this Commission to involuntarily pool the S/2  
24 even though a spacing unit exists, and existed at that time, as to

1 the E/2 of Section 15. Following their application, a second per-  
2 mit was applied for by Cardinal for the Kadrmas well, in the SW  
3 NW of Section 15. The application was made on July 29th, 1970.  
4 The permit designated the W/2 of Section 15 as the spacing unit  
5 for the Kadrmas well. So, as of right now, there are two spacing  
6 units in Section 15 approved by the State Geologist; one for the  
7 E/2 and one for the W/2. Those spacing units, to the best of our  
8 knowledge, have never been applied for. No permit has been ap-  
9 plied for by North American or Lewis Hill concerning the S/2 of  
10 Section 15. We think that this could result in very serious con-  
11 sequences if North American is now allowed, after refusing to  
12 participate in the first well, to come before this Commission and  
13 obtain from this Commission, an order involuntarily pooling the  
14 S/2 of Section 15. Section 38-08-08 of the North Dakota Century  
15 Code gives North Dakota involuntary pooling statute. That stat-  
16 ute is very specific in that it states that the Commission shall  
17 enter an order pooling interests in a spacing unit and only in a  
18 spacing unit. The only spacing unit that exists in Section 15 are  
19 the E/2 and the W/2 of Section 15. We therefore, submit that  
20 North American has no standing to come before this Commission  
21 and ask that involuntary pooling be declared on the S/2 of Section  
22 15 because no spacing unit exists as to that 320 acres. I'd like  
23 to point out to the Commission that in order for the Commission  
24 to grant this, they would have to overrule two administrative de-

1 cisions made by the State Geologist, because the State Geologist  
2 has approved two drilling permits. As you are all aware, the  
3 State Geologist, before he grants the drilling permit under the  
4 regulations, must determine if correlative rights will be protec-  
5 ted and if there will be waste. He has made this decision when  
6 he granted to Cardinal the two permits. We see some very prac-  
7 tical dangers involved in North American's application. We sub-  
8 mit that North American is not an interested person if that term  
9 is used in the involuntary pooling statute of North Dakota. Only  
10 an interested person can bring a hearing for involuntary spacing.  
11 We contend that an interested person, as the term is used in the  
12 statute, means someone who has spent, or who is willing to  
13 spend; or who has taken the risk or is willing to take the risk to  
14 drill an oil or gas well. North American does not fall in any of  
15 these cate--classifications. Our definition of an interested--  
16 this definition of an interested person is predicated on the fact  
17 that half of the involuntary pooling statute is devoted to a provis-  
18 ion whereby this Commission determines how those people who  
19 spent the money can recover their share of cost out of production.  
20 So, the legislature had in mind that an interested person can only  
21 mean somebody who has taken the risk and who has spent the mon-  
22 ey. We would further submit to the Commission that in the event  
23 that North American's application is granted, that the meaning--  
24 --the significance of a drilling permit in the state of North Dakota

1 will become almost minimal. It would appear to us that you will  
2 never be able to rely upon a drilling permit to go out and drill a  
3 well because some uninterested 3rd party who is not involved in  
4 the unit can wait and see what the results of your well are going  
5 to be and then decide after the fact--after they know what has tak-  
6 en place--whether or not they want in this production. We also  
7 see dangers as far as voluntary pooling is concerned. Let's as-  
8 sume that the E/2 contains one mineral owner, one lessee. They  
9 voluntarily pool their interests, drill and complete a producing  
10 well. Sometime down the road, a disinterested 3rd party in the  
11 SW/4 decided he wanted in to the well and so he brought an action  
12 to involuntarily pool the S/2 which would nullify the voluntary  
13 pooling that had taken place in the E/2. We think that by allow-  
14 ing North American to now change spacing units would create gen-  
15 eral chaos in oil development in North Dakota, retard exploration,  
16 or retard development. We believe that there are only two things  
17 that should be concerned here--we should be concerned with here  
18 this morning--under the statute for involuntary pooling, and those  
19 are: That Cardinal and Joe Hiram Moore attempt to voluntarily  
20 pool the E/2 of Section 15. We are prepared to present testimony  
21 for that account. The second issue under the statute is, were  
22 the costs incurred by the participating working interest owners  
23 reasonable and should they be allowed to cover--recover those  
24 costs out of production? We are prepared to present testimony



1 concerning the costs that were incurred and submit to this Com-  
2 mission a plan whereby Cardinal and J. Hiram Moore will be able  
3 to recover their cost out of production. We simply don't see why  
4 this Commission should now consider an application reversing es-  
5 tablished spacing units, and force pooling the S/2 of Section 15.  
6 We would therefore ask this Commission to dismiss North Amer-  
7 ican's application.  
8

9 GOVERNOR GUY: The Commission will take your motion under  
10 advisement.

11 MR. KELLOGG: Mr. Chairman.

12 GOVERNOR GUY: Yes.

13  
14 MR. KELLOGG: My name is Theodore Kellogg from Dickinson,  
15 and I'm a lawyer. I'm representing Mr. and Mrs. Jacob Schank,  
16 Mr. E. Rakowski, Mr. Ward Kirby, and myself, who are min-  
17 eral owners on the E/2 of Section 14 involved here. On behalf  
18 of these parties, I wish to join in the motion that has been made  
19 by Mr. Roberts of Cardinal, without presenting any arguments  
20 that he has made the argument, but I wish to join in behalf of each  
21 party and add to that motion. We do not believe that the statutes  
22 here authorize the application that has been made by North Amer-  
23 ican as has been indicated in this argument, so that jurisdiction  
24 is referred to entertain such an application. Therefore, we add  
25 to this motion that no jurisdiction rests with this Commission un-  
26 der our statutes, to entertain the application they have made.  
27

1 Now maybe the other application they have made seeks similar  
2 results from the producer. It doesn't exist in the statute and  
3 we therefore object, on jurisdictional grounds in which the state  
4 and our continuous appearance here in these proceedings, that  
5 these appearances are made with the reservation of objection to  
6 the jurisdiction under this statute to entertain this proceeding  
7 proposed by North American.  
8

9 GOVERNOR GUY: All right, yes.

10 MR. MUGLY: Ah, Mr. Chairman, my name is Norbert Mugly,  
11 I'm the owner of a small mineral interest in the E/2 of this sec-  
12 tion. I would like to enter my appearance here today; I would  
13 like to join with the motion made by Cardinal. My appearance  
14 is made in opposition to Case No. 1004 and is in support of Case  
15 No. 1005. Since I will not be able to be here during the Hearing  
16 today, I must leave, I wonder if the Commission would give me  
17 an opportunity to just make a very short comment, perhaps it  
18 won't be relevant, but I would like to make it for the benefit of  
19 the Commission and the people here.  
20

21 GOVERNOR GUY: All right, proceed.

22 MR. MUGLY: I received a letter from the North American Roy-  
23 alties asking me to sign the unitization agreement. I only have  
24 a small interest in the E/2; had I signed this agreement, my in-  
25 terest would have been cut in half--my beneficial interest--I  
26 think the letter is misleading, I think it's unfair, I think the Com-  
27

1 mission, who is interested in protecting the welfare of everyone  
2 concerned, should have the benefit of this letter. I would like  
3 to leave it with the secretary for whatever purpose it may serve.  
4 Thank you.

5 MR. KELLOGG: Ah, Mr. Chairman, may I also add that Mr.  
6 Durvand Balch ah., this is Mr. Kellogg again on the wire here.  
7 Mr. Durvand Balch, who is a mineral owner under the E/2 of  
8 14 and who is presently of Minneapolis, has asked to join in the  
9 motion which has been made.

10 DR. NOBLE: We have a letter from him. We have received a  
11 letter from Mr. Balch.

12 MR. KELLOGG: Yes, well he is sitting here and has asked to  
13 join in the motion.

14 GOVERNOR GUY: All right, the Commission will take the motion  
15 under advisement. Would you proceed with hearing Case No.  
16 1004, Dr. Noble?

17 MR. DAVIDSON: Governor, John Davidson, Billings, Montana,  
18 attorney at law appearing on behalf of Cardinal Petroleum Com-  
19 pany, and recognizing the fact that the Commission is taking the  
20 motion under advisement asks, in behalf of Cardinal, that we  
21 have a continuing objection to any testimony by North American  
22 in support of their application. I make this request in order to  
23 conserve time but to maintain the proper record.

24 MR. THAMES: May it please the Commission. North American

1 Royalties makes its return objection to the motion that has been  
2 presented and that five points are involved.

3 GOVERNOR GUY: Are you speaking...are you speaking on Mr.  
4 Davidson's request for..

5 MR. THAMES: Yes.

6 GOVERNOR GUY: For a continuing objection?

7 MR. THAMES: Yes.

8 GOVERNOR GUY: All right.

9 MR. THAMES: First, the Commission has historically used the  
10 designation of spacing units by an operator only for purposes of  
11 determining acreage to be enclosed and if that was the required  
12 number of acres for a spacing unit. The motion has been based  
13 on facts not in evidence and no evidence has been yet produced  
14 under oath, which supports the testimony of Attorney Roberts or  
15 any other people at this stage of the proceeding, they protested  
16 the drilling of a well per se vests no rights in the driller of that  
17 well, except the compensation ratably for his share and every-  
18 one else's share of the cost from production in the spacing unit  
19 as the Commission will set a spacing unit. That a permit  
20 is certainly not necessary on the part of North American Roy-  
21 ties for a well that's already been drilled by someone else. The  
22 objectors who are mineral owners here fall outside of the defi-  
23 nition of interested persons as set forth by Mr. Roberts in his  
24 argument and they have then no interest in these proceedings;  
25  
26  
27

1 they have no cost for bearing interest will further be shown that  
2 Cardinal and their co-working interest owners own a minority  
3 interest--cost-bearing interest--in the E/2. It will be shown  
4 that they would own a minority interest in the S/2 were that the  
5 spacing unit. It will be shown that the mineral owners, who ap-  
6 pear here, also own a minority interest in the E/2 of the spac-  
7 ing as well as the S/2. That the application of Cardinal and their  
8 objection is based upon a minority interest in both cost-bearing  
9 and in royalty interests within the tracts in question. Either  
10 one--and that majority interests--cost-bearing as well as non-  
11 cost-bearing in both of these spacing units lie with North Ameri-  
12 can Royalties and the supporters of the motion and application  
13 of North American. If we may proceed.

14 GOVERNOR GUY: The Commission will grant your motion for  
15 continuing objection and we'll proceed with the case.

16 MR. THAMES: May it please the Commission, C. B. Thames,  
17 Jr. Case No. 1004, representing North American Royalties.  
18 Question before the Commission is of correlative rights and of  
19 the determination and setting of those rights, and the recogni-  
20 tion of those rights by the Commission. The testimony by a geo-  
21 logist and Petroleum Engineer will set out the fundamental tech-  
22 nical basis for the consideration of this Commission of a proper  
23 spacing unit--320-acre spacing has been established by a field-  
24 wide order and this hearing is to determine the orientation of a  
25  
26  
27

1 spacing unit and the consideration of correlative rights of all  
2 parties involved, based upon the technical evidence that will be  
3 produced. We call Mr. Richard Zajic.

4 MR. DAVIDSON: Mr. Chairman, we would also like to request  
5 a continuing objection in the name of Cardinal be withheld to..  
6

7 MR. THAMES: All right, which one is it? Would you state your  
8 name please, and by whom you are employed?

9 MR. ZAJIC: My name is Richard M. Zajic, and I'm employed  
10 by North American Royalties, Inc.

11 MR. THAMES: And in what capacity?

12 MR. ZAJIC: I'm area geologist.

13 MR. THAMES: Would you state your...briefly state your educa-  
14 tional experience background, Mr. Zajic?  
15

16 MR. ZAJIC: I graduated from the University of Oklahoma in  
17 1950-a Bachelor of Science in Geology; employed by Gulf Oil Cor-  
18 poration , Petroleum Geologist in 1950 to 1960. Consultant  
19 Geologist in the Williston Basin; residence in Bismarck, North  
20 Dakota 1960-1969; employed by North American Royalties as  
21 Area Geologist in 1969 to the present.  
22

23 MR. THAMES: Have you previously testified before this Com-  
24 mission as an expert witness?

25 MR. ZAJIC: Ah..as a consulting geologist, yes.

26 MR. THAMES: We ask this testimony of this witness be consid-  
27 ered that of an expert.

1 GOVERNOR GUY: Yes.

2 DR. NOBLE: Your testimony will be accepted as that of an ex-  
3 pert witness, Mr. Zajic.

4 MR. THAMES: Mr. Zajic, have you made a study of the Dickin-  
5 son, West-Dickinson Field area in the course of your employment?  
6

7 MR. ZAJIC: Yes, I have.

8 MR. THAMES: Are you familiar with the area and the Section 15  
9 in question--140-96--and have you made a study of that particular  
10 area?

11 MR. ZAJIC: Yes, I have.

12 MR. THAMES: Will you give us briefly the results of your study?  
13

14 MR. ZAJIC: Ah.. I have prepared seven exhibits and the first  
15 three or four exhibits will be a brief rundown on the Dickinson,  
16 West-Dickinson Fields. Ah.. Exhibit 1 is an Isopach Map of the  
17 map A Sandstone and it is contoured on one-foot contour interval.  
18 It shows the distribution of the A sand in relation to the West-Dick-  
19 inson and Dickinson Fields. Specifically, it shows that the A sand-  
20 stone is not present in Section 15 of 140N., 96W. Exhibit 2 is an  
21 Isopach Map of the mapped Heath B Sandstone, the contour inter-  
22 val is one foot. This map also shows the distribution of the B  
23 Sand in relation to the Dickinson and West-Dickinson Field and al-  
24 so shows in our area of interest, in Section 15--the SW SE of 15--  
25 140N., 96W., that it is productive. It also shows that the sand is  
26 not present in the N/2 of Section 15. This map is only an orienta-  
27



1 tion map and we'll go into that in more detail on a later exhibit.  
2 Exhibit 4 is a stratigraphic cross-section AA prime. This cross-  
3 section extends from the Continental #1 Karsky-State in the SE  
4 NW of Section 36-140N.-97W, it goes through the Cardinal 5-29  
5 Filipi, in the SW NW of 29-140N.-96W., and extends to the North  
6 American's #1 Wolfe in the SW NW of Section 22-140N.-96W.  
7 This cross-section..the datum of this cross-section--stratigraph-  
8 ic cross-section--is the top of the Heath Formation. The Heath  
9 Formation is made up of shales and limestone and sandstone. Ah  
10 in this..in the Dickinson and West-Dickinson Fields, you can  
11 pick out two rock units, ah..one which I call on here the lime-  
12 stone marker and the other marker is the shale marker. Some-  
13 times the limestone marker is used and called the A Zone and  
14 the shale marker is sometimes called the B Zone. Ah..this cross-  
15 section is prepared to show the relationship of the A Sandstone  
16 to the B Sandstone, which is colored in yellow. The cores of the  
17 wells--ah..all these wells were cored--are in green; the drill  
18 stem tests are in blue; the perforations are in red. This cross-  
19 section also shows that the West side of the Field, which is the  
20 West-Dickinson Field, the A and B Sandstones are well develop-  
21 ed within the Karsky-State and the sand thins. Ah..the A Sand-  
22 stone is 5 feet thick in the Cardinal Filipi well, the B Sandstone  
23 is  $4\frac{1}{2}$  feet thick. And then if you go to the Northeast, the A inter-  
24 val thins to about 12 feet in the sand..the A Sandstone pinches out

1 and the B Sandstone is present. The Exhibit #3 is a structural  
2 map drawn at the top of the Heath B Sandstone. It also shows the  
3 an oil-water contact in the B Sandstone. This is evidenced by the  
4 three wells which have red arrows pointing to them. Ah..this in-  
5 formation..the water obtained from drill stem tests in one level  
6 was recoverable either through a production test, the perforations  
7 establishes the oil-water contact at approximately -5405. Ah..  
8 Exhibit #6 is an enlargement of Exhibit 2 and is the area which we  
9 are concerned about today. The yellow is the outline of the zero  
10 edge of the B Sandstone, the blue is the projected oil-water con-  
11 tact from the structure contour map, and the brown is a postulat-  
12 ed or extrapolated from the structure contour map also. Also  
13 shown on this map, is the trace of cross-section of BB prime,  
14 which is Exhibit #5. Ah..Exhibit #6 has the name of the well, be-  
15 low is the completion information, date completed, initial poten-  
16 tial. Below that is the average daily production for July 1970, be-  
17 low that is cumulative production as the 1st of August, 1970. Ah..  
18 Exhibit 7 is identical to geologic map as Exhibit 6 and it shows the  
19 spacing unit as requested by Cardinal, and Exhibit 6 shows the  
20 spacing unit as requested by North American Royalties. Exhibit  
21 5, the Stratigraphic cross-section, is drawn from the North Am-  
22 erican #1 Freed, the SW SE of Section 16, through the North Am-  
23 erican Wolfe in the SW NW of 22, to the Cardinal #15-15 Shank in  
24 the SW SE of Section 15, to the Continental #1 Jilek in the SW NW

1 of 23, to the Continental #1 Wolfe-Federal Land Bank in the SW  
2 SE of Section 14. Ah.. what this cross-section illustrates is why  
3 I have placed the zero edge of the B Sandstone where I have. The  
4 North American Freed had a gross section of about 8 feet with 2  
5 foot of net sand interbedded with lime, shale, argillaceous lime-  
6 sandy type-the North American #1 Wolfe had 11 feet of clean,  
7 Heath B Sandstone, the Cardinal #15-15 Shank has a gross inter-  
8 val of 9 feet. It is interbedded with a shale break at 3 foot in the  
9 middle of the sand and they have 3 feet of net at the top of the  
10 sand body and 3 feet at the base of the sand body. The Continen-  
11 tal Jilek has a gross interval of 14 feet and it also has interbedded  
12 with shale which indicates that in a SE or a NE direction, you  
13 can anticipate that the sandstone would not be present. And in the  
14 Wolfe well in the SW SE of 14, which had no sandstone present at  
15 all.

16 MR. THAMES: Mr. Zajic, based upon your studies that you have  
17 made in the Exhibits, which you have shown here, do you have an  
18 opinion as to the productivity that might be attributed to the N/2  
19 of Section 15? Do you have an opinion?

20 MR. ZAJIC: Yes, I do.

21 MR. THAMES: Mr. Zajic, what is your opinion?

22 MR. ZAJIC: My opinion is that no produc..no commercial pro-  
23 duction ah.. would be found in the N/2 of Section 15.

24 MR. THAMES: Based upon the..have you performed all of these

1 studies yourself?

2 MR. ZAJIC: Yes, I have.

3 MR. THAMES: Have you watched wells and studied samples and  
4 cores in this area?

5 MR. ZAJIC: Yes, I have.

6 MR. THAMES: And electric logs?

7 MR. ZAJIC: Yes, I have.

8 MR. THAMES: Did you prepare these exhibits yourself?

9 MR. ZAJIC: Yes, I did.

10 MR. THAMES: These represent your own work?

11 MR. ZAJIC: Yes.

12 MR. THAMES: What general perimeters did you use to base the  
13 thickness--the isopach thickness--that you contour on Exhibit 6?

14 MR. ZAJIC: The map--the thickness map--they're based on the  
15 interpretation of the electric logs and core analysis.

16 MR. THAMES: And ah..did you make these interpretations your-  
17 self?

18 MR. ZAJIC: Ah..yes, I did.

19 MR. THAMES: You show a brown line that extends to the NE ac-  
20 cross the Northern part of Section 15. What does this line mean?

21 MR. ZAJIC: Well, to me, it means if sandstone--porous, effec-  
22 tive sandstone--was present in that location, it would be wet.

23 MR. THAMES: Is this a projection of the datum then of the oil-  
24

1 water contact in that area?

2 MR. ZAJIC: Yes, from the structure map which is Exhibit 3.

3 MR. THAMES: But, you show a zero edge of sand along through  
4 that same general area and roughly parallel to that line. What  
5 is the location of the zero line is based on?  
6

7 MR. ZAJIC: The zero line is an interpretation as shown on the  
8 cross-section, and in my opinion that anything north of that zero  
9 line, or NE or East of that zero line, there will be no sand de-  
10 velopment.

11 MR. THAMES: Thank you. You may cross-examine Mr. Zajic.

12 MR. ROBERTS: Mr. Zajic, do you think..do you think the field  
13 is fully defined?  
14

15 MR. ZAJIC: Sir?

16 MR. ROBERTS: Do you think the field is fully defined?

17 MR. ZAJIC: I don't know.

18 MR. ROBERTS: On the ah..on your map where have you got it  
19 all closed off?

20 MR. ZAJIC: Ah..based on the information which I have, it is my  
21 opinion that the zero line is where I have it drawn.

22 MR. ROBERTS: There is no need for additional development  
23 then?  
24

25 MR. ZAJIC: Based on my maps, no.

26 MR. ROBERTS: Wasn't this the opinion reached in 1968 and la-  
27 ter in 68 by an engineering committee of which North American

1 Royalties was a member, that Dickinson had been all defined?

2 MR. ZAJIC: What year was that?

3 MR. ROBERTS: '60...late '67 and early '68?

4 MR. ZAJIC: I don't know, I was not an employee of North Amer-  
5 ican Royalties at that time.

6  
7 MR. HARRISON: I would like to ask Mr. Zajic a question if I  
8 may. Ray Harrison of Cardinal. You ah..have from your maps  
9 pretty well eliminated the N/2 of Section 15, Dick, for two rea-  
10 sons. One is the lack of sand and the other is the structural po-  
11 sition. You have in the Southwest part of Township 140-96, you  
12 have mapped a series of minor anticlinal flectures extending nor-  
13 mal to strike in a downdip direction. One of them running through  
14 Section 31, the other through 29 and 30, and then a major one up  
15 in Section 20. Now, I'm curious as to why you have another one  
16 started there in Section 26, which is as pronounced on the -5300  
17 contour datum as the others that carry through ah..why do you  
18 believe that does not continue and create another minor anticlinal  
19 flecture right through Section 15?

20  
21 MR. ZAJIC: Well, it's just a matter of geologic interpretation--  
22 my interpretation--the low well in the SW SE of 16 ah..is anom-  
23 alous and it's low and it, in my interpretation, stops that ah..  
24 nose trend.

25  
26 MR. HARRISON: But that low hole could be on the South side of  
27 an anticlinal feature--if there is one there. Ah...as far as the

1 sand isopach is concerned, I'm curious as to why you blocked it  
2 off across the N/2 of 15 and you have no control point to the North  
3 for a matter of some 6 miles and you have the sand extending for  
4 a matter of 6 or 7 miles up to that point in that direction.

5 MR. ZAJIC: I have no reason to extend it any further to the North.

6 MR. HARRISON: In other words, you don't believe that the sand  
7 is going to bow back out through Section 15 like it does to get a-  
8 round Section 17. That's not going to happen in 15?

9 MR. ZAJIC: No.

10 MR. HARRISON: There is a sparsity of wells control up there,  
11 isn't there?

12 MR. ROBERTS: Mr. Zajic, was your map..your exhibit pre-  
13 pared before or after the Shank well was drilled?

14 MR. ZAJIC: Ah..I kept up a set of field maps which are as ah..  
15 development progressed which are very similar to the Exhibit 1  
16 and Exhibit 2.

17 MR. ROBERTS: Did you have to change Exhibit 2 after the Card-  
18 inal well was drilled?

19 MR. ZAJIC: Ah..the only change I had to make..I was figuring  
20 that Cardinal would get 4 to 5 feet of net pay, and I had to increase  
21 in one foot.

22 MR. ROBERTS: How much gross...or is your isopach net feet?

23 MR. ZAJIC: Net.

24 MR. ROBERTS: You have four ah..how could you give it four,



1 when you had a zero point in Section 14 and a 2 foot point in Sec-  
2 tion 16? You have some bow with that?

3 MR. ZAJIC: Would you repeat the question, please?

4 MR. ROBERTS: Why did you give it 4 feet prior to the time that  
5 the well was drilled...you moved the 4 to zero. Do you have some  
6 bow or some indication of sand existing in Section 15 prior to the  
7 time that the well was drilled? The well in the SW SW..SW SE  
8 of 16 got 2 feet of pay. The well in the SW SE of 14 has no pay.  
9 Should..prior to the time that Cardinal drilled the Shank well,  
10 you thought that that was going to have 4 feet of pay?

11 MR. ZAJIC: Based on the 11 feet of pay that we had in the Wolfe  
12 well, that was my interpretation.

13 MR. ROBERTS: Then there was an indication at that time that it  
14 could extend Northward through Section 15 in the NE direction.

15 MR. ZAJIC: No, I was..I was..always with the opinion that the  
16 S/2 of Section 15 had some commercial oil under it, and prior to  
17 you drilling the well, it was my opinion that there was 4 or 5 feet  
18 of sand there.

19 MR. ROBERTS: And it turned out that there was more than that.

20 MR. ZAJIC: One foot more.

21 MR. ROBERTS: Yes, 6 is...

22 MR. ZAJIC: Well, I said 5 feet..4 to 5 feet.

23 MR. HARRISON: One more general question, if I may. From  
24 the indications of your exhibit #2, would you or would you not say

1 the development of the B Sand, effective porosity is generally  
2 following the trend of the basin?

3 MR. ZAJIC: The trend of the basin.. regional trend of the basin  
4 ...in the Dickinson area is East/West, is it not?

5 MR. HARRISON: Not the way I figure it. You've got..you've  
6 got a bend in there heading up to the Northeast and I kind of think  
7 that..that's what I want to determine from my question.

8 MR. ZAJIC: Well, would you repeat that question, please?

9 MR. HARRISON: Yes, the regional trend of the..I mean the...  
10 I asked you if you did or if you did not believe that the develop-  
11 ment of the effective B Sand porosity ah..follows the general  
12 trend of the basin...the figuration of the basin as we see it now  
13 structurally.

14 MR. ZAJIC: Well, I feel that the trend is in an East/West dir-  
15 ection--the sand development.

16 MR. HARRISON: Then you figured it does foll...does not follow  
17 the trend?

18 MR. ZAJIC: Well, if the trend of the basin is NE SW, then no.

19 MR. HARRISON: This here..there's a hole three miles North  
20 of the Northeast corner of the Township with which we're con-  
21 cerned that is essentially flat on your marker with the...between  
22 the green well and their prospect well. Which to me would indicate  
23 that the basin is..bending at this point and is heading off to the  
24 Northeast.

1 DR. NOBLE: May we cut short the geological interpretation. I  
2 think we could go on forever with this. You may proceed.

3 MR. THAMES: Any further questions of Mr. Zajic? We offer  
4 Mr. Zajic's exhibits numbers 1 through 7.

5 DR. NOBLE: You're supposed to... do you have any further tes-  
6 timony?  
7

8 MR. THAMES: Mr. Ron Ragland, Petroleum Engineer will be  
9 our next witness. Did you receive these exhibits?

10 DR. NOBLE: We will accept these exhibits. Are there any ob-  
11 jections to accepting these exhibits? Right, we will consider  
12 them.

13 MR. THAMES: Would you state your name please, and by whom  
14 are you employed?  
15

16 MR. RAGLAND: Ronald A. Ragland, and I'm a Consulting Engin-  
17 eer for North American Royalties.

18 MR. THAMES: Would you state your educational and experience  
19 background please?

20 MR. RAGLAND: I have about 15 years' experience as Petroleum  
21 Engineer of major oil companies and independant oil companies  
22 and consulting. I'm a registered, professional Engineer in Mon-  
23 tana.  
24

25 MR. THAMES: Have you previously testified before this Com-  
26 mission?

27 MR. RAGLAND: Yes, I have.

1 MR. THAMES: Mr. Ragland, in the course of your employment  
2 as that of a Consultant Petroleum Engineer for North American,  
3 have you made a field study of the field area to which Mr. Zajic  
4 has been referring and which is the subject of this hearing today?  
5

6 MR. RAGLAND: Yes, I have.

7 MR. THAMES: Have you prepared exhibits which show the re-  
8 sults of that study?

9 MR. RAGLAND: I have prepared exhibits labeled 8 through 12  
10 which I feel have a bearing in this case.

11 MR. THAMES: Would you explain those exhibits to the Commis-  
12 sion please?

13  
14 MR. RAGLAND: Exhibit No. 8, the first one listed, shows the  
15 reservoir data for the Heath Zone of the Dickinson Field. It  
16 show. it's a very brief summary of the reservoir characteris-  
17 tics--true characteristics, and my interpretation of what the re-  
18 covery mechanism is. These data were obtained from public  
19 sources and they also jive with my own interpretations of the  
20 facts as listed. The most significant point on the first exhibit is  
21 the original pressure in the Heath reservoir, which was 3475  
22 PSI. This was the virgin pressure. I would now refer you to Ex-  
23 hibit 9, which is a tabulation of drill stem test data as obtained  
24 from the drill stem test drawn on the Cardinal Shank #15-15 in  
25 the SW of the SE, Section 15, Township 140N., Range 96W. This  
26 exhibit shows the tested interval, gauge depths, temperature,  
27

1 oil gravity, recovery, and also at the bottom of the table, it  
2 shows the initial flow time, the initial shut-in time and pressure,  
3 the final flow time and pressure, and the final shut-in time and  
4 pressure. I have applied the Horner Method or technique of in-  
5 terpreting this pressure data and it is plotted for the final build-  
6 up on Exhibit 10. This exhibit forms the basis for the following  
7 exhibit, Exhibit 10.

9 MR. THAMES: Would you explain Exhibit 10?

10 MR. RAGLAND: Exhibit 10 is a graph showing the..the drill  
11 stem test pressure buildup or the final buildup of the Shank 15-15.  
12 There are two significant points, I feel, shown by this exhibit.  
13 The first being the final extrapolated pressure of 2170 PSI. This  
14 is the pressure that's interpreted to be the extremity of the  
15 drainage area or the more or less, reservoir pressure, had the  
16 well be shut-in for an infinite time. The second point is that the  
17 data plot a straight line. The significance of the original shut-  
18 in pressure is that this well had been depleted when it was drill-  
19 ed; the original pressure being 3475 PSI, the pressure in this  
20 well being 2170 PSI, the difference being brought about by deple-  
21 tion. This..

22  
23  
24 MR. THAMES: Does this indicate, Mr. Ragland, that the reser-  
25 voir in the immediate area of the Cardinal Shank well is in pres-  
26 sure continuity with the other portions of the B Zone in the West  
27 Dickinson Field?

1 MR. RAGLAND: Yes, I would say it's in pressure continuity with  
2 the field, and I would further say that this area of the reservoir  
3 has been depleted somewhat by production from the field. Ah..  
4 this pressure drawn down of course, does substantiate that one  
5 well in this field will dry in an area equal to 320 acres or more,  
6 because the closest wells to this well are on that spacing pattern.  
7 The second point is, because of the straight line of extrapolation  
8 here, this indicated that the flow into this well is radial rather  
9 than linear. This would be expected in a reservoir of this type  
10 where there is no indicated strong water drive from any one direction,  
11 and there is no indication of a reservoir limit, at least  
12 within the area of investigation of this drill stem test.  
13

14 MR. THAMES: Would you estimate, based on your calculation,  
15 the radius of investigation of this particular test?  
16

17 MR. RAGLAND: The radius of investigation of this particular  
18 test would not exceed approximately 150 feet.

19 MR. THAMES: Thank you.

20 MR. RAGLAND: Exhibit 11 is a portion on the Isopach Map previously  
21 presented in evidence here by Mr. Zajic. It shows the  
22 Cardinal Shank 15-15 well. It shows a circle around this well.  
23 The area within this circle represents an area equal to 320 acres.  
24 This ah.. this circle would have a radius of 2106 feet. The significance  
25 of this exhibit is that it shows that the SW/4 of Section  
26 15 would be substantially drained by the Cardinal well in the SW  
27

1 of the SE of 15. Whereas, the NE/4 would very..would only  
2 slightly be drained. I have another exhibit which I would like to  
3 put on the board, which I think would vividly demonstrate--at  
4 least in color--these two areas. This exhibit is a large-scale  
5 drawing of the same exhibit you have there labeled Exhibit 11,  
6 with an overlay showing the area within the circle that falls with-  
7 in the SW/4 in red, and the area that falls within the circle in the  
8 NE/4 in blue. The purpose of this exhibit is to show the relative  
9 sizes of the drainage area within these two quarter sections. The  
10 estimated acre feet underlying the NE/4 within this circle is 20  
11 and the estimated acre feet underlying the SW/4 within the circle  
12 is 275 feet. From these data, I have drawn certain conclusions  
13 and would make certain recommendations to this Committee.  
14 They're listed on Exhibit 12. The first being that one well in  
15 this area will drain an area equal to 320 acres or more; that the  
16 reservoir flow into the Shank 15-15 is radial; that the radius of  
17 a circle having an area of 320 acres is equal to 2106 feet--that's  
18 substantially more than the SW/4, or more on the SW/4 of Sec-  
19 tion 15 will be drained by the Shank well than will the NE/4. The  
20 recommendations that I would make are that spacing in this field  
21 should conform to the 320 acres previously set by this Commis-  
22 sion, and that the quarter sections most affected by production  
23 from the Cardinal 15-15 Shank be included in the spacing unit for  
24 this well--and that..those quarter sections are the S/2 of Section  
25  
26  
27



1 15--and would therefore recommend that the S/2 of Section 15 be  
2 designated as the spacing unit for the Cardinal well.

3 MR. THAMES: Mr. Ragland, have you in the course of your  
4 study of this area, made any estimate of the reserves which  
5 might underly the various quarter sections within Section 15?

6 MR. RAGLAND: Yes, I have.

7  
8 MR. THAMES: What, and on what basis do you make this esti-  
9 mate? What is your estimate of the reserves underlying the NE/4  
10 of Section 15?

11 MR. RAGLAND: The original recoverable oil underlying the NE/4,  
12 based on my interpretation, would be approximately 10,000 bar-  
13 rels. There has been some drainage, so this would not be the  
14 actual recoverable oil at present, but would have been the recov-  
15 erable oil initially.

16  
17 MR. THAMES: And is this based on a volumetric...

18 MR. RAGLAND: This is based on a volumetric determination on  
19 the acre feet underlying the NE/4 and applying a reasonable re-  
20 covery factors to the oil in place.

21 MR. THAMES: Have you made a similar determination using the  
22 same recovery factors for the SW/4 of Section 15?

23 MR. RAGLAND: On the same basis, using the same factors--  
24 same recovery factors--and same perimeters, the recoverable  
25 oil originally in place in the SW/4 is approximately 65,000 bar-  
26 rels. Now, these are primary reserves that I'm speaking of and  
27

1 do not include any secondary reserves.

2 MR. THAMES: And, in the SW/4 have you made a similar con-  
3 frontation?

4 MR. RAGLAND: Excuse me, that..that was the SW/4.

5 MR. THAMES: I'm sorry. The SE/4.

6 MR. RAGLAND: And in the SE/4, approximately 100,000 barrels  
7 primary.

8 MR. THAMES: Have you made a determination in calculation of  
9 the NW/4?

10 MR. RAGLAND: Approximately 2,000 barrels.

11 MR. THAMES: And, adding these figures together, is it your  
12 opinion that the spacing..that a spacing unit which contains the  
13 NE/4 would derive little or no production from that quarter to  
14 this well in the SE?

15 MR. RAGLAND: I'm sorry, I don't understand your question.

16 MR. THAMES: Is it your opinion that the NE/4 would not contri-  
17 bute any significant reserves to a well in the SW..SE/4?

18 MR. RAGLAND: On the basis of my estimate of recoverable re-  
19 serves, from the N/2, there is insufficient oil in place that is  
20 recoverable to warrant the drilling of a well in the N/2.

21 MR. THAMES: And, would there be a contribution of reserves  
22 from the N/2 to this well in the SE/4?

23 MR. RAGLAND: There ah...there would be some slight drain-  
24 age from the N/2 to the S/2, yes.

1 MR. THAMES: You may cross-examine.

2 MR. ROBERTS: Mr. Ragland, the perimeter that you have void  
3 to come up volumetric estimate, what are they based on?

4 MR. RAGLAND: They're based on..you mean the porosity, re-  
5 covery factors, and so forth?

6 MR. ROBERTS: Geological factors.

7 MR. RAGLAND: Geological factors? They were based on the es-  
8 timated net feet of pay and the vicinity of the well.

9 MR. ROBERTS: As determined from the geological exhibits pre-  
10 viously entered?

11 MR. RAGLAND: Yes, those were used.

12 MR. ROBERTS: While you were doing volumetric..putting volu-  
13 metric calculations to Mr. Zajic's map structure?

14 MR. RAGLAND: Correct.

15 MR. ROBERTS: Are you implying then that all the drainage that  
16 is taking place in the SW/4...well, let me ask you another thing  
17 while we're at it. That if Mr. Zajic's geological interpretation  
18 is incorrect, so are your volumetric estimates?

19 MR. RAGLAND: Well, yes, these estimates were based on this  
20 volumetric..that's right.

21 MR. ROBERTS: Are you implying then that all of the drainage  
22 that you say has taken place in the SW/4 of Section 15 was occas-  
23 ioned by Cardinal's 15-15 Shank well?

24 MR. RAGLAND: All the drainage in the SW/4 occasioned by this

1 well, no.

2 MR. ROBERTS: There is another well that may be draining on  
3 top of the quarter?

4 MR. RAGLAND: Yes.

5 MR. ROBERTS: Which well is that?

6  
7 MR. RAGLAND: I would say that the entire field ah.. all the wells  
8 in it have contributed somewhat to the drainage in that quarter  
9 section ah.. because I would interpret the pressure in that quarter  
10 section to be somewhat in the order of the pressure in the Cardin..  
11 al well and because the pressure has been depleted ah.. drainage  
12 has occurred, and this drainage has occurred as a result of wells  
13 to the south. Now, I couldn't pin it down to which one.  
14

15 MR. ROBERTS: Would it be reasonable to say that perhaps the  
16 closest well to the south of the SW/4 of Section 15 is probably the  
17 one that is draining?

18 MR. RAGLAND: This well no doubt would have contributed to  
19 the drainage.

20 MR. ROBERTS: Substantially?

21 MR. RAGLAND: Well, I wouldn't want to put.. put a number to it.

22 MR. ROBERTS: As much as the Cardinal well.

23  
24 MR. RAGLAND: Well, since the wells to the South have been in  
25 production longer, I would say that the wells to the South, as a  
26 group, have drained the SW/4 more than the Cardinal well at this  
27 point, but because the Cardinal well is closer, only 660 feet from

1 the SW/4, over a period of time, the Cardinal well will drain the  
2 SW/4 more probably than the wells to the South.

3 MR. ROBERTS: Right now, drainage occurs to the SW/4, the  
4 wells to the South have drained it more than the Cardinal well.

5 MR. RAGLAND: Yes, even before Cardinal's well was drilled,  
6 I feel that the SW/2 was somewhat depleted by the wells to the  
7 South.  
8

9 MR. ROBERTS: Do you know who the operator is to the well in  
10 the SW NW of 22?

11 MR. RAGLAND: It's shown on the exhibit as North American.

12 MR. ROBERTS: So that well could be the instrumental in drain-  
13 age in the SW/4?  
14

15 MR. RAGLAND: Yes.

16 MR. ROBERTS: Now in your evaluation of the pressure buildup,  
17 is it true that one thing that could possibly be determined by the  
18 shut-in pressure buildup is the presence of a barrier of some  
19 sort?  
20

21 MR. RAGLAND: Yes.

22 MR. ROBERTS: Did you find any such areas in your analysis?

23 MR. RAGLAND: There was an anomaly in the pressure buildup  
24 on the initial shut-in..there was no anomaly on the pressure  
25 buildup on the final shut-in, and I would say that there's no barrier  
26 indicated within the area of investigation of the drill stem test,  
27 because of the straight line of the final buildup.

1 MR. ROBERTS: Well, if there was a zero sand isopach some-  
2 where reasonably close to the North of the Cardinal well, it pos-  
3 sibly could have shown up on that drill stem test.

4 MR. RAGLAND: Well, the area of investigation of this drill stem  
5 test, according to my calculations, was something in the order  
6 of 150 feet, so if a barrier were present, it would have had to be  
7 ...I mean you can't say there's no barrier, because the area of  
8 investigation is only 150 feet from the well bore. Beyond that,  
9 ...beyond that, there could be a barrier.

11 MR. ROBERTS: Then it's your analysis that the pressure build-  
12 up does not indicate a barrier anywhere within 150 feet or within  
13 the radius of drainage was, radius of investigation of your drill  
14 stem test?

16 MR. RAGLAND: Correct, no barrier indicated.

17 DR. NOBLE: No further questions for the witness, Mr. Roberts?

18 MR. KELLOGG: May I make one or two inquiries?

19 DR. NOBLE: Mr. Kellogg.

20 MR. KELLOGG: You said that there had been some drainage in  
21 this area, is that correct?

22 MR. RAGLAND: Yes, sir.

23 MR. KELLOGG: That would also include the area where the  
24 Shank well is located, there has been some drainage?

25 MR. RAGLAND: Yes, sir.

26 MR. KELLOGG: Did you aim to figure out how much drainage  
27

1 there has been..an estimate?

2 MR. RAGLAND: I did not compute the degree of drainage, no.

3 MR. KELLOGG: Is there any way you can tell, percentage-wise?

4 MR. RAGLAND: Ah, there is a way to approximate it.

5 MR. KELLOGG: You have given us some figures on what you es-  
6 timate to be the--I think you said--the primary reserves, is that  
7 what you called it?

8 MR. RAGLAND: Yes, sir.

9 MR. KELLOGG: In the SE/4 you estimated that there were about  
10 100,000 barrels as I recall.

11 MR. RAGLAND: Yes, sir.

12 MR. KELLOGG: In the SW/4, I think you said 65,000 barrels.

13 MR. RAGLAND: Yes, sir.

14 MR. KELLOGG: NE/4 you estimated 10,000..no, maybe that  
15 isn't right.

16 MR. RAGLAND: 10,000 in the NE and 2,000 in the NW.

17 MR. KELLOGG: On the basis of those estimates, can you give  
18 us an estimate of how much drainage there has been, for example,  
19 in the SE/4? On the basis of your studies.

20 MR. RAGLAND: I would hesitate to give you one just off the top  
21 of my head without..without actually computing it.

22 MR. KELLOGG: Can you compute it on the basis of the informa-  
23 tion you have now?

24 MR. RAGLAND: What is involved here is ah..having, first of



1 all, this would be a material-balanced calculation. And to com-  
2 plete a material-balanced calculation--to make it worthwhile--it  
3 would be necessary to have accurate measurements of the proper-  
4 ties of the crude oil in place.

5 MR. KELLOGG: Do you have these?

6 MR. RAGLAND: There..these are called PVT analysis. No,  
7 sir, I do not have those. If they are available, then a reasonable  
8 interpretation of what had been recovered, or had been drained  
9 from this quarter..

10 MR. KELLOGG: In your opinion, has the drainage been substan-  
11 tial in the NE., the SE/4?

12 MR. RAGLAND: Ah..well, this is sort of a relative thing..ah..  
13 the pressure..

14 MR. KELLOGG: I'm talking about how many thousands of barrels  
15 of present reserves, could it have been 30,000 barrels would you  
16 say? More or less?

17 MR. RAGLAND: As I said before, I would rather not give you an  
18 estimate, if I have to I will. I'll give what I think would be an or-  
19 der of magnitude number.

20 MR. THAMES: We object to this badgering and fishing. The  
21 witness has testified it is not possible for him to give a compo-  
22 tent answer that he feels is responsible and he shouldn't be re-  
23 quired to make estimates.

24 DR. NOBLE: Yes, I think we're getting a little farther into the

1 normal entrance of this evidence.

2 MR. KELLOGG: Has it been what you would..are you..do you  
3 have enough information to know whether or not it has been sub-  
4 stantial?

5  
6 MR. RAGLAND: Well, here again, substantial is a relative thing.

7 MR. KELLOGG: And you'd rather not answer it, is that right?

8 MR. RAGLAND: I'd rather not, yes sir.

9 MR. KELLOGG: Well then, in the SW/4 there has also been drain-  
10 age, as you have testified in response to the inquiries by Mr.  
11 Roberts.

12 MR. RAGLAND: True.

13  
14 MR. KELLOGG: From the wells to the South?

15 MR. RAGLAND: Yes.

16 MR. KELLOGG: Is that right? And the nearest well to the South,  
17 is the well--the so-called Wolfe well, is that right?

18 MR. RAGLAND: Yes, sir, not counting the..yes, sir, that's  
19 right.

20 MR. KELLOGG: The Wolfe well, in the quarter section that bor-  
21 ders the SW/4.

22  
23 MR. RAGLAND: That's true.

24 MR. KELLOGG: That Wolfe well has been in production for some-  
25 thing over a year. Is that right? How long has it been there?

26 MR. RAGLAND: I don't know the completion date on the Wolfe  
27 well, no.

1 DR. NOBLE: The 20th of January.

2 MR. RAGLAND: 1-27?

3 MR. KELLOGG: It is draining you have testified the SW/4?

4 MR. RAGLAND: Yes, I would say that all wells to the South  
5  
6 have contributed somewhat to the drainage that has occurred in  
7 the S/2 of Section 15. Now, the degree is interpretive and...

8 MR. KELLOGG: On these estimates, that you have made as to  
9 the recovery of the reserves in the various quarters here, we  
10 recognize are your opinion and if...

11 MR. RAGLAND: These are my estimates based on volumetric  
12 methods on the oil that's recoverable..

13 MR. KELLOGG: And you...they may be in error, isn't that  
14 right?

15 MR. RAGLAND: They could be, yes.

16 MR. KELLOGG: As a matter of fact, previous engineers and  
17 committees of engineers have drawn the Northern limit of the  
18 Dickinson Field considerably South of where it is now...Isn't  
19 that right, sir?

20 MR. RAGLAND: Well, if you're referring to a specific map..  
21  
22 if you could show me something I would..I would agree with you.

23 MR. KELLOGG: Well, I was asking you if you knew whether they  
24 have or not.

25 MR. RAGLAND: I don't know.

26 MR. KELLOGG: You do not know. I think that's all.

1 DR. NOBLE: Are there further questions of the witness? You  
2 may be excused..oh excuse me, Mr. Roberts.

3 MR. ROBERTS: Mr. Ragland, were you around in the Dickinson  
4 engineering committee?

5 MR. RAGLAND: Yes, several years ago.

6 MR. ROBERTS: Did you participate in some of the engineering  
7 maps that were prepared by that committee?

8 MR. RAGLAND: True.

9 MR. ROBERTS: None of those maps that were prepared ever  
10 showed Dickinson terminating several miles further South, than  
11 we know that it terminates now.

12 MR. RAGLAND: Well that's going on memory, and I hesitate to  
13 say, frankly, I think..I don't remember what the map showed in  
14 this particular area.

15 DR. NOBLE: Are there further questions of Mr. Ragland? Then  
16 the witness will be excused. Mr. Thames, do you have other  
17 witnesses?

18 MR. THAMES: We call Mr. Arthur Bauer, Executive Officer  
19 of North American Royalties.

20 DR. NOBLE: Mr. Thames, the Commission will accept the ex-  
21 hibits of Mr. Ragland, taking into account the continuing objec-  
22 tion of Cardinal.

23 MR. THAMES: Will you state your name please, address, by  
24 whom you are employed and your capacity, Mr. Bauer?  
25

1 MR. BAUER: Arthur C. Bauer, I'm a resident of Bismarck,  
2 North Dakota, I'm employed by North American Royalties, Vice-  
3 President, Manager of the Rocky Mountains.

4 MR. THAMES: Have you been active in the course of negotiations  
5 for the determination of a spacing unit and in the decision-mak-  
6 ing process related to the drilling of a well in the SE/4 of Section  
7 15, that we're talking about?

8 MR. BAUER: Yes, I have.

9 MR. THAMES: Would you review those procedures please, for  
10 the Commission?

11 MR. BAUER: Prior to March 25th, of 1970, in fact January the  
12 20th of 1970, North American Royalties, Inc., as the operator,  
13 completed an oil well--the #1 Wolfe, the SW of the NW of Section  
14 22, 140-96. Immediately after this well was completed, our  
15 geologists, our engineers, and myself began to make a study of  
16 the rest of our acreage in the vicinity of this well for further de-  
17 velopments in the Dickinson Field. We own various lease hold  
18 interests in all of Section 15, 140-96. After the well had been  
19 under production and we had an opportunity to test the quality of  
20 the production, it became a decision to make on where we should  
21 drill another well. It was determined we should drill another  
22 well in the SW of the SE quarter of Section 15. A study of the  
23 land ownership of all Section 15 indicated that others were various  
24 working interest owners--lessees--in the property. One of the  
25  
26  
27

1 larger owners--other than North American--was our partner,  
2 Louis W. Hill, Jr., who has been active in development of much  
3 of the Dickinson Field with us and with other operators. Another  
4 owner was Cardinal Petroleum Company. There were several  
5 unleased mineral interests who had contacted at various times  
6 in an effort to lease, but they said we'll wait and we'll probably  
7 join you in drilling a well. These parties were Continental Oil  
8 Company, Helmerich and Payne, Inc., and Houston-Huffman.  
9 We made a decision that we should go ahead and we should contact  
10 these parties to see if they were in accord with us in drilling a  
11 well in the SW of the SE. Prior to an opportunity to contact these  
12 people, I received a telephone call from Mr. Hugh Palmer, the  
13 President of Cardinal Petroleum Company, asking me if we, as  
14 working interest partners, would be agreeable to drilling a well  
15 in the SW of the SE of 15, 140-96. Stating..he stated that it  
16 would be necessary that Cardinal Petroleum Company would be  
17 the operator of the well and that the spacing unit..it would be es-  
18 sential that the spacing unit would be the E/2 of Section 15. I  
19 told Mr. Palmer that I was in accord in drilling the well, but I  
20 disagreed on two primary functions, and that was what would the  
21 spacing unit be and who would be the operator. I agreed--I dis-  
22 agreed--with the operations in Cardinal for the reason that North  
23 American and its partners Louis W. Hill, Jr. owned the majority  
24 of the working interest in this well either way you want to space

1 it, the S/2 or the E/2. According to my calculations, North Am-  
2 erican Royalties and Louis W. Hill, Jr. own 65.8% of the work-  
3 ing interest--the cost-bearing interest--in the spacing unit de-  
4 fined as the S/2 of 15. Cardinal Petroleum Company would own  
5 15.9 interest. There are other working interest owners: Contin-  
6 ental Oil Company, Houston-Hoffman, and Helmerich & Payne,  
7 as well as Joe Hiram Moore. In the E/2 of Section 15, the work-  
8 ing interest--or cost-bearing ownership--should the spacing be  
9 that way, would be North American and its partner, Louis W.  
10 Hill 64 $\frac{1}{2}$ %, Cardinal Petroleum Company 31.9, and Joe Hiram  
11 Moore 3.5. So you can see that North American and its partner  
12 have the majority interest, cost-bearing wise, working interest  
13 wise in either spacing unit, and we feel that we're justified in be-  
14 ing the operators of a well that was contemplated to be drilled on  
15 our property. We're not only lessees of minerals owned by other  
16 parties, but we are mineral fee owners in both the E/2 of the Sec-  
17 tion and the SW/4. I also felt at the time, from our geological in-  
18 terpretation at this time, that the proper spacing for this well..  
19 the well in the SW SE of 15 should be the S/2 of the Section in the..  
20 it is necessary in drilling these wells to contemplate the correl-  
21 ative rights of all of the parties in all of the land that we're dis-  
22 cussing today. And certainly a lessee has a responsibility to his  
23 lessors--the royalty owners--to do the best job he can, to drill  
24 him the best oil well he can, to get him the best price, and to pro-



1 tect his correlative rights. I would like to point out at this time  
2 that we are here, North American Royalties, Inc., on behalf of  
3 other people that stand to gain or to lose much more in this spac-  
4 ing argument than will North American Royalties, Inc. The rev-  
5 enue interest for all of the owners in either one of these spacing  
6 units has been computed and we believe to the best degree of ac-  
7 curacy with regard to the S/2 of Section 15, North American Roy-  
8 alties, Inc. will have 35.7% of the production if it's spaced that  
9 way. With regard to the E/2 of 15, North American Royalties,  
10 Inc. will have 34.9. Actually, we're talking about less than 1%  
11 of the revenue for this well for North American if it's spaced the  
12 S/2 rather the E/2. We wouldn't spend the time or the effort to  
13 be in here arguing with one of our old partners over 1% interest,  
14 but we do have correlative rights of our lessors to protect. Our  
15 lessors cover the ownership of the E/2 alone as far as this sec-  
16 tion is concerned, and it was my opinion and my management de-  
17 cision to decide that we would not join in the drilling of a well as  
18 proposed by Cardinal in compassing the E/2 of Section 15 as it  
19 would be a violation of the correlative rights of the owners of the  
20 land in the SW/4 should we. It would possibly put our lessees in  
21 jeopardy as well. Therefore, I told Mr. Palmer in this telephone  
22 conversation, that we would not agree to the drilling of this well.  
23 I attempted, subsequently, to this time to negotiate--I stopped in  
24 Cardinal's office twice--some kind of an equitable solution to our  
25  
26  
27

1 problem to no avail. We were informed, I believe in April--I  
2 can't pick out the date, that there had been two drilling applica-  
3 tions made by Cardinal Petroleum Company, and that the drilling  
4 applications covered the well in the SW SE of 15 and they covered  
5 a well in the SW NW of Section 14. And the permits were grant-  
6 ed to Cardinal Petroleum Company to drill both of these wells,  
7 and we were not advised prior to the filing of the applications for  
8 these permits. We found out through Petroleum Information and  
9 through a direct contact with the Geological Survey Office. We  
10 have had no objection to joining and paying our fair share of the  
11 cost in an oil well and in the well that is presently drilled and com-  
12 pleted if the oil well was drilled on the proper spacing unit to  
13 protect all of the correlative rights, and that's what our argument  
14 is about here today.

15 MR. THAMES: Mr. Bauer, was your opinion in your management  
16 decision based upon the technical information supplied to you by  
17 your geological and engineering staff?

18 MR. BAUER: Yes, it was.

19 MR. THAMES: And is that essentially similar information to of  
20 what is now presented to the Commission, modified as it has  
21 been by the information...

22 MR. BAUER: Modified by one foot of additional net pay added to  
23 the well. We stand ready today, if the Commission so decides,  
24 to pay our fair share of the cost of drilling this well, if the spac-

1 ing is designated as the S/2. We also demand and feel that it is  
2 appropriate, that we be assigned the function of operator, which  
3 the Commission has the authority to do under the statute.

4 MR. THAMES: How many interest owners are affected in the  
5 two types of spacing units?  
6

7 MR. BAUER: In the S/2 of 15, according to our calculations,  
8 there are 39 various royalty owners and working interest owners;  
9 to the spacing unit encompassing the E/2, there are 32. Attached  
10 to Exhibit 6 and 7 are summations in detail of the breakdown for  
11 each of the spacing units--both revenue-interest wise, working  
12 interest wise--which this is your cost basis. You gentlemen can  
13 compare and you can see that these are done to a very accurate  
14 scale. You can see that a great deal of the ownership of the E/2  
15 of Section 15 is set forth on both of the exhibits and you will see  
16 that no matter which way you space this well, that these people  
17 in the E/2 of Section 15 will share in the production from this  
18 well. If you space it according to Cardinal's idea of the E/2, it  
19 will double the production of these people who are going to share  
20 anyway, and will eliminate any production from this well, which  
21 we, in our testimony, have conclusively shown as being drained  
22 from 7 parties. These parties are: Virginia C. Mosley, Virgin-  
23 ia C. Mosley and Fred F. Mosley, Jr. Trustee. These royalty  
24 owners who reside in New York: Frank Veverka, a landowner--  
25 a retired landowner lives in Dickinson, Joseph Kralicek, Jr. and  
26  
27

1 Josephine Kralicek, his wife, who is the surface owner of the  
2 SW/4 of 15 at this time, and he's here today to testify. In ad-  
3 dition, it would take away any production from Helmerich & Payne,  
4 Inc., Houston-Hoffman, and Continental Oil Company. Percen-  
5 tage wise, I've calculated at this time, that North American Roy-  
6 alties, who has under the statute sent out to all the owners under  
7 the S/2 of 15 a voluntary communitization agreement, and has  
8 had a return of a certain number of these and a rejection of a  
9 certain number of these, that we have right now a revenue inter-  
10 est percentage as far as our application is concerned, for the  
11 S/2 of 78.9% of the revenue interest signed up for our way of  
12 spacing. For the E/2, I can only calculate from the figures that  
13 I have on the interest that we have had signed up, that Cardinal  
14 Petroleum Company, with regard to their communitization ef-  
15 fort on the E/2 would have 35.49% revenue interest signed up.  
16 With regard to the working interest or cost-bearing share of the  
17 signed up voluntary owners, the percentage on the S/2 of Section  
18 15 is 71.7% agreeing to the S/2. And with regard again to the  
19 E/2, our figure indicates that Cardinal would have signed up in  
20 their favor, 35.49. I wish to correct an error on my statement  
21 as far as the revenue interest signed by Cardinal in the E/2 of  
22 15. It would be 41.5%. We have in our possession, copies of  
23 the communitization agreement, which we have sent out. We al-  
24 so have a copy of the letter dated June 16th, 1970, that I sent to  
25  
26  
27

1 the royalty owners asking them to sign a communitization agree-  
2 ment covering the S/2 of 15 and which have been brought to the  
3 attention of the Commission, has not been read by Judge Mugly,  
4 and with the permission of the Commission, I would like to read  
5 this very brief letter so that you can have your decision as to the  
6 quality of the pros, etc.  
7

8 MR. ROBERTS: We ask that the letter be entered.

9 MR. BAUER: We are agreeable.

10 MR. THAMES: We'd be happy to enter it.

11 MR. BAUER: Do you want it as your exhibit? We'll enter it as.

12 MR. THAMES: Exhibit 13. We have only one copy, rather than  
13 the two that usually...  
14

15 DR. NOBLE: You may proceed, please.

16 MR. BAUER: Thank you. "Dear Royalty Owners: Please find  
17 enclosed, two copies of communitization agreement covering the  
18 S/2 of Section 15, Township 140N., Range 96W., Stark County,  
19 North Dakota. The Shank well, located in the SW of the SE of  
20 Section 15, Township 140N., Range 96W., is now in the process  
21 of being completed as a producing, Heath Sand oil well. The  
22 Dickinson Field's spacing requires 320 acres for each well lo-  
23 cated in this area of the field. It is our opinion that the equities  
24 require that the oil underlying the S/2 of Section 15, Township  
25 140N., Range 96W., should be included within the 320-acre spac-  
26 ing unit for the well located in the SW of the SE of Section 15,  
27

1 Township 140N., Range 96W. And in order to protect the corre-  
2 ative rights of all of the parties owning an interest in these pro-  
3 perties, we request that you sign one copy of the enclosed agree-  
4 ment in the space provided, which we have checked with a red  
5 pencil, and insert your correct address in the blank opposite  
6 your name. Have your signature notarized and return the fully  
7 executed and acknowledged agreement to North American Royalti-  
8 ties, Inc. and enclose addressed, stamped envelope. You may  
9 retain the other copy of the agreement for your file. Thank you,  
10 Very truly yours, North American Royalties, Inc. By Arthur C.  
11 Bauer."

12  
13  
14 MR. THAMES: Do you have a copy of the communitization agree-  
15 ment which you forwarded to those persons?

16 MR. BAUER: Yes, I do. I have the copy--all of the copies--I  
17 have an extra copy here that's unsigned. If the opposing counsel  
18 would like to examine the copy and compare it with the signed  
19 copy--you have a copy of it that I sent out.

20 MR. VANDEWALLE: Those are the ones that you sent out with  
21 the letter, is that correct?

22 MR. BAUER: Right, yes.

23  
24 MR. THAMES: I show you what we'll mark as Exhibit 14, a com-  
25 munitization agreement, and ask if this is the agreement that  
26 you enclosed with the letter previously read--Exhibit 13.

27 MR. BAUER: This is the copy of the agreement, as a matter of

1 fact, it is the copy that I signed on behalf of North American Roy-  
2 alties.

3 MR. THAMES: We offer Exhibit 14.

4 DR. NOBLE: Are there objections to Exhibit 14? If not, we will  
5 proceed.

6  
7 MR. THAMES: Are there any..is there any cross-examination  
8 of Mr. Bauer?

9 MR. DAVIDSON: John Davidson, of Cardinal Petroleum Company.  
10 Ah..Mr. Bauer, you testified that you were advised of the issuance  
11 of the drilling permit to Cardinal Petroleum Company sometime  
12 in April of 1970.

13 MR. BAUER: I believe that was the date. I'd have to...to get  
14 the exact date..check with our geologist.

15  
16 MR. DAVIDSON: And at that time, were you also advised that  
17 the permit had been issued in accordance with an application des-  
18 ignating the E/2 of Section 15 as the spacing unit?

19 MR. BAUER: I was advised from reading a copy of the application  
20 which, on the form, has a blank that you fill in advising the Com-  
21 mission of what you, you are going to select as a spacing unit.

22 MR. DAVIDSON: Would you agree with your counsel's statement  
23 that the granting of the permit has no other legal significance other  
24 than to allow the permitting to drill the well?  
25

26 MR. BAUER: I would absolutely agree with that statement.

27 MR. DAVIDSON: And you place no legal significance on the fact

1 that the spacing unit had been designated by the State Geologist?

2 MR. BAUER: Do you want an answer to that?

3 MR. DAVIDSON: Yes, I do.

4 MR. BAUER: All right. I'll give you my legal opinion, or do  
5 you want my personal opinion?  
6

7 MR. DAVIDSON: In your opinion...

8 MR. BAUER: My opinion is that in order to control the drilling  
9 of oil wells, the Geological Survey has a responsibility of know-  
10 ing where wells are going to be drilled, who is going to drill the  
11 wells, whether this company has a bond as required by the stat-  
12 ute, and that when an application is filed and the requirements of  
13 the regulation are fulfilled, that the Geological Survey has no de-  
14 cision-making powers at all--they have to grant the drilling ap-  
15 plication--this is a permit to drill, it is not a delineation of what  
16 correlative rights are and proper spacing, or title.  
17

18 MR. DAVIDSON: Well, then are you aware of Rule 102 of the  
19 North Dakota Industrial Commission, particularly that portion  
20 which states that the State Geologist shall deny an application for  
21 a permit to drill a well if the well drilled in the location applied  
22 for would cause or tend to cause waste or violate correlative  
23 rights.  
24

25 MR. BAUER: I want to read that, what is that rule--101?

26 MR. DAVIDSON: It'd be the second to the last paragraph under  
27 the Rule 102.



1 MR. BAUER: 102. Yes, I'm quite..I think this ah is a very good  
2 rule, and I'll tell you why, because I feel that this is part of the  
3 function of the State Geologist office, to look into such things as  
4 drilling applications as a well isn't being drilled within say..for  
5 instance, isn't being drilled within a waterway, which could dam-  
6 age and pollute our environment. It is also a function of the Com-  
7 mission, delogated of the Commission--delegated to the State  
8 Geologist--by the rule to see that potentially that there isn't two  
9 wells drilled side by side on one spacing unit, a number of these  
10 things. Does that answer your question?

11  
12 MR. DAVIDSON: But you would agree that the State Geologist  
13 determines to his satisfaction, the correlative rights prior to is-  
14 suing the permit?

15  
16 MR. BAUER: I think he acts in an emergency position, sir, be-  
17 cause I think this duty rests with the Commission.

18 MR. DAVIDSON: Are you aware..you're an attorney, aren't  
19 you, Mr. Bauer?

20 MR. BAUER: Yes, sir.

21  
22 MR. DAVIDSON: Are you aware of anything under the statutes of  
23 the regulations of the North Dakota Industrial Commission in the  
24 state of North Dakota, that would place no limit on time of any-  
25 one challenging the issuance of a permit established in a spacing  
26 unit?

27 MR. BAUER: Without making a study of it--research--I can't

1 recall any. It could possibly be, but I don't know.

2 MR. DAVIDSON: You had lessors in the E/2 of Section 15, I be-  
3 lieve you testified.

4 MR. BAUER: Yes.

5 MR. DAVIDSON: And these lessors were not bound lessors in the  
6 SW/4 of Section 15?

7 MR. BAUER: Correct.

8 MR. DAVIDSON: And I believe you've also testified that were  
9 your application granted, the lessors in the E/2--mineral owners--  
10 would..their interests would be depleted 50%. Is that right?

11 MR. BAUER: It would be half of..if our application for the S/2  
12 were accepted. Their interest would be half of what it would be  
13 if it is the E/2.  
14

15 MR. DAVIDSON: Are you ready...

16 MR. BAUER: Their half that they lose would go to the royalty  
17 owners in the SW/4.  
18

19 MR. DAVIDSON: You read into the record, in your communiza-  
20 tion letter, and I'll ask you if in your opinion that communization  
21 letter advised, on a spaced..advised the mineral interest owners  
22 in the E/2 of the fact that if they signed it, they would lose half  
23 of their interests.  
24

25 MR. BAUER: Not in so many words, no it didn't.

26 MR. DAVIDSON: Did any of the lessors in the E/2 sign that com-  
27 munitization agreement?

1 MR. BAUER: Yes, a number of them signed the communitization  
2 agreement and, subsequently, they mailed it to us and then later  
3 they addressed letters to us or copies of letters addressed to the  
4 Commission or Cardinal where they revoked their signatures,  
5 and these certainly have not been considered in the calculations  
6 of what we have signed up. I have them all present here, and  
7 as far as I'm concerned, it's a mutual agreement--a mutual un-  
8 derstanding situation, and we are not calculating these in our  
9 computations of the parties who have agreed to sign this.

11 MR. DAVIDSON: Wouldn't it be a fair statement, Mr. Bauer,  
12 that it be very possibly the reason that these signatures were re-  
13 voked by the mineral interest owners in the E/2, what by reason  
14 of the fact that after they signed this, they found out that they  
15 would lose half of their interests?

17 MR. BAUER: I believe they were informed by Cardinal. At the  
18 time Cardinal sent out communitization agreements--I am as-  
19 suming they did, I didn't get one from Cardinal and I think our...  
20 it was not necessary to send us one when they knew we were ob-  
21 jecting--but, to the best of my knowledge, this is how they would  
22 find things out, is being informed by Cardinal. As a matter of  
23 fact, I talked to one on the telephone.

25 MR. DAVIDSON: Did your communitization letter advise the min-  
26 eral interest owners in the E/2 that the Shank well had been drill-  
27 ed by Cardinal at their cost and at no cost to you?

1 MR. BAUER: No, it said the well had been drilled by Cardinal,  
2 I believe. I have to look at that again, and that it was in the  
3 process of completion as an oil well. And in the purpose of pro-  
4 tecting correlative rights, we were going for the S/2 of 15. That's  
5 essentially what it said. Now, you can carry these letters on in-  
6 to infinity. Pardon?

8 MR. DAVIDSON: I believe if you refer to the letters, it just  
9 says it was drilled.

10 MR. BAUER: It said that well is now in the process of being com-  
11 pleted as a producing Heath Sand well.

12 MR. DAVIDSON: By whom?

13 MR. BAUER: It doesn't say who drilled it.

14 MR. DAVIDSON: Do you agree with the testimony of your expert  
15 witnesses that prior to drilling of the Shank well, the lessors in  
16 the SE/4 of Section 15 were being drained?

17 MR. BAUER: The SE/4? I think you mean the SW/4.

18 MR. DAVIDSON: No, the SE/4.

19 MR. BAUER: Yes, I believe so, I believe all the wells in the  
20 field, as a result of pressure decline, have been depleting.

21 MR. DAVIDSON: Do you know whether or not your lessors--or  
22 any other lessors in the SW/4--have been paid any compensatory  
23 royalties by reason of that drainage?

24 MR. BAUER: No, we have never been asked by our lessors to  
25 either drill a well or pay them compensatory royalties or anything

1 else. They--mind you, this well was completed on January 20th,  
2 --the Wolfe Well, of 1970 and in any jurisdiction, you usually  
3 have a minimum of 90 days up to 6 months to decide on what to  
4 do.

5  
6 MR. DAVIDSON: (Unintelligible)

7 MR. BAUER: Most oil companies won't let you get up to the  
8 courthouse on that one.

9 MR. DAVIDSON: Now, after you were advised that Cardinal had--  
10 in their application, had requested an application that the E/2  
11 be designated the spacing unit, did your company take any affirm-  
12 ative steps to stop them from drilling the well under the permit  
13 as issued?  
14

15 MR. BAUER: No, because in my opinion, they had valid oil and  
16 gas leases. We checked the record to see that they had some.  
17 And, they can have a lease on one acre, so long as they follow  
18 the requirements of the state with regard to drilling. There's  
19 nothing we can do about it. They have a right to extract their min-  
20 erals.  
21

22 MR. DAVIDSON: Did you take any legal process to enjoin them?

23 MR. BAUER: No, no.

24 MR. DAVIDSON: So you just in effect, let them go ahead and drill.

25 MR. BAUER: That's their privilege.

26 MR. DAVIDSON: At their expense.

27 MR. BAUER: That's their privilege.

1 MR. DAVIDSON: And...

2 MR. BAUER: They had an opportunity to join in the spacing unit  
3 the way we wanted it, and we would have paid before the well was  
4 drilled and assumed our share of the risk.

5 MR. DAVIDSON: But under the circumstances, they actually in-  
6 curred had..had this been a dry hole, North American would not  
7 have had any responsibility, is that correct?

8 MR. BAUER: That is correct, because we did not enter into a  
9 contract.

10 MR. DAVIDSON: Do you own any interests in the..I believe it's  
11 the Jilck well..in the SW NW of Section 23?

12 MR. BAUER: No, we do not.

13 MR. DAVIDSON: Are you the operator of that well?

14 MR. BAUER: Of the Jilck well..that, Continental Oil Company  
15 was the operator...

16 MR. DAVIDSON: I'm sorry..I..but you do own interest in the  
17 Wolfe well in the SW NW of Section 22?

18 MR. BAUER: Yes, sir.

19 MR. DAVIDSON: And you're the operator?

20 MR. BAUER: We are the operator.

21 MR. DAVIDSON: What percentage of the interest do you own?

22 MR. BAUER: Well, we own 50% working interest subject to the  
23 reversion of a portion of that working interest to Continental Oil  
24 Company on the basis of a farm-out contract. So, when the well  
25  
26  
27

1 pays out, they'll get 25% interest.

2 MR. DAVIDSON: Has the well paid out?

3 MR. BAUER: I don't believe it has; it's probably close, but our  
4 accounting department from Chatanooga takes care of that phase.

5 MR. DAVIDSON: Approximately how many barrels of oil would  
6 have to be produced before pay out?  
7

8 MR. BAUER: I would judge in excess of 80,000 barrels, depend-  
9 ing on the cost of the well, etc. So the well is potentially getting  
10 close to pay off.

11 MR. DAVIDSON: How much is it making?

12 MR. BAUER: It's making.. In July.. I think it's on Exhibit 6 and  
13 7.. 566 barrels of oil per day; it averages less than 1% water cut  
14 in July. The cumulative is right there--110,000 barrels.  
15

16 MR. DAVIDSON: Has your company, at any time, ever attempted  
17 to obtain a drilling permit from the State Geologist designating  
18 the S/2 as a spacing unit?

19 MR. BAUER: No, sir, because a drilling permit was already  
20 granted by the State Geologist for the one and only location within  
21 the bounds of the S/2, that was the SW of the SE.  
22

23 MR. DAVIDSON: Then your answer is no?

24 MR. BAUER: Right.

25 DR. NOBLE: Do you have any further questions of the witness,  
26 Mr. Davidson?

27 MR. PALMER: Could I ask some questions please? I'm Hugh

1 Palmer.

2 DR. NOBLE: Yes. Go ahead.

3 MR. PALMER: Who initiated this telephone call?

4 MR. BAUER: You did.

5 MR. PALMER: Do you remember when it was?

6 MR. BAUER: Yes, it was back in March; I couldn't give you the  
7 date, but it was before we got word of your permit.

8 MR. PALMER: Why did I tell you the well ought to be drilled?

9 MR. BAUER: Well, because you'd have 31.9% if it was drilled  
10 that way, and only 15.9 the other way.

11 MR. PALMER: Didn't I tell you that we were probably being  
12 drained by your Wolfe well?

13 MR. BAUER: I can't recall whether you did or not.

14 MR. PALMER: How much..how much oil have you taken out of  
15 the well since the time I initiated to you that the well ought to be  
16 drilled in 15?

17 MR. BAUER: We had January--10 days; and February--28 days..

18 MR. PALMER: I thought you said that it was on January 10th..

19 MR. BAUER: It was on January 20th, and then, of course you  
20 know, what the first few days are.

21 MR. PALMER: And how long was it after our conversation--our  
22 conversation for your benefit was on what date? How long was it  
23 after our..that before we filed the permit?

24 MR. BAUER: I believe they said March the 25th, is that correct?



1 Somebody testified.. stated that..

2 MR. PALMER: 15 days to think over my complaints about drain-  
3 age on 15.

4 MR. BAUER: You didn't.. it wasn't drainage you were talking a-  
5 bout, it was making money, by drilling the well--for joint benefit.

6 MR. PALMER: And what did you tell me that drilling was.. that  
7 that was my problem--drainage.

8 MR. BAUER: I said our interests was exactly probably within  
9 a few decimal points as what I said today.

10 MR. PALMER: Did you ever send out a request to drill the S/2  
11 instead of the E?

12 MR. BAUER: No, I was hoping that.. like we've done for 19 years--  
13 we'd get together and disagree and finally settle this thing before  
14 we got into a fight.

15 MR. PALMER: You mean after you got it all out of that Wolfe  
16 well. Think about that.

17 MR. KELLOGG: May I ask a few questions?

18 DR. NOBLE: Yes, Mr. Kellogg.

19 MR. KELLOGG: Mr. Bauer, you might.. did you say you were  
20 President or Vice-President of North American Royalties?

21 MR. BAUER: Vice-President.

22 MR. KELLOGG: Vice-President. And you were familiar with the  
23 leasehold interests I'm sure, because you testified that you hold  
24 leasehold interests in the various tracts involved here.

1 MR. BAUER: Yes.

2 MR. KELLOGG: Isn't that right? And you testify that North Amer-  
3 ican has lease-hold interests under the E/2 of Section 15 as  
4 well as under the SW/4?

5 MR. BAUER: Yes, sir.

6  
7 MR. KELLOGG: And I don't recall now your testimony as to the  
8 percentage of interest you have in the E/2, but it was 30 some  
9 odd percent.

10 MR. BAUER: I was talking about percentage of revenue interest  
11 or percentage of cost-bearing interest and that's what I was talk-  
12 ing about.

13  
14 MR. KELLOGG: I'm a little bit confused. When you're talking  
15 about cost-bearing interest, you're talking about working interest  
16 now?

17 MR. BAUER: Yes.

18 MR. KELLOGG: And you have...well what is your percentage  
19 of all the interest that you have--of all production?

20 MR. BAUER: Of all production?

21  
22 MR. KELLOGG: Yes.

23 MR. BAUER: What we'll get--what percentage of the dollar of  
24 oil?

25 MR. KELLOGG: Yes.

26 MR. BAUER: North American in the E/2 is 34..it's .3498380.

27 MR. KELLOGG: About 35%?

1 MR. BAUER: Roughly 35%, yes.

2 MR. KELLOGG: Now, that includes the Shank lease, and I repre-  
3 sent Mr....do I have to state my name or should I have done so?

4 DR. NOBLE: You did earlier.

5 MR. KELLOGG: Yes, but for this examination..

6 DR. NOBLE: Yes, why don't you do it again.

7  
8 MR. KELLOGG: Kellogg, representing the Shanks and Mr. Shank.  
9 That 35% interest included the..you computed the Shank lease-  
10 hold in there? Right?

11 MR. BAUER: Yes. Yes, it has.

12 MR. KELLOGG: And as a matter of fact, you still claim to be a  
13 lessee of Shank?

14 MR. BAUER: Absolutely. 100%.

15  
16 MR. KELLOGG: You didn't pay the delay rentals that became due  
17 on July 1, did you?

18 MR. BAUER: In accordance with the terms of the oil and gas  
19 lease, a well must be commenced on or before the rental paying  
20 date within the confine of the description of the lease. Okay.

21 MR. KELLOGG: But my question was, you did not pay any delay  
22 rentals?

23  
24 MR. BAUER: You don't have to, the well was drilled.

25 MR. KELLOGG: Well, did you pay any delay rentals?

26 MR. BAUER: No.

27 MR. KELLOGG: No. At the time picked on the lease--July 1st.

1 MR. BAUER: Right.

2 MR. KELLOGG: Do you realize on the provision in lease, if a  
3 well is commenced that qualifies it. Is that right?

4 MR. BAUER: Right.

5 MR. KELLOGG: Regardless of who commenced the well..

6 MR. BAUER: Right.

7 MR. KELLOGG: Even though it be a stranger with whom you had  
8 no privilege?

9 MR. BAUER: Right.

10 MR. KELLOGG: Is that your theory?

11 MR. BAUER: Yes.

12 MR. KELLOGG: And that's why you didn't pay the delay rental?

13 MR. BAUER: Ah.. I didn't pay the delay rental because the well  
14 was not only drilled, but it was completed.

15 MR. KELLOGG: Yes, but you're relying on that other cause of  
16 the lease..

17 MR. BAUER: And you must remember, Mr. Kellogg...

18 MR. KELLOGG: Yes.

19 MR. BAUER: That if we desire to participate in this well, no  
20 matter which way the spacing goes, we must pay our fair share  
21 of the cost of that well.

22 MR. KELLOGG: Ya, I understand. Now under the law. The law  
23 requires it.

24 MR. BAUER: Right.

1 MR. KELLOGG: Now then, the same thing is true with reference  
2 to Kralicek--you didn't pay his July 1st rentals either.

3 MR. BAUER: Right.

4 MR. KELLOGG: Isn't that right? On the Kralicek lease. Now,  
5 this conversation that you had with Mr. Palmer--the 1st time--  
6 you say he initiated the conversation.

7 MR. BAUER: Yes, he did.

8 MR. KELLOGG: You don't have a record of the date of that con-  
9 versation?

10 MR. BAUER: No, Hugh just said it was March the 6th.

11 MR. KELLOGG: You gave to the Commission some percentages  
12 of the people who have signed up in favor of your position here,  
13 and I think you said in the S/2 of 15, 78%--roughly, or was it 71%.  
14 I may be mistaken.

15 MR. BAUER: Ah..give me a minute here and I'll see how these  
16 papers...

17 GOVERNOR GUY: Well, what is your point..let's not ah..

18 MR. KELLOGG: Well, my point is, Mr. Chairman, to find out  
19 how many of those were in the SE/4 in which we're interested in  
20 and how many were in the SW/4. What percentage of that 78 to-  
21 gether..put together..

22 MR. BAUER: I could read the names of the ones..

23 MR. KELLOGG: You haven't broken it down, have you?

24 MR. BAUER: No, I've broken it down total of the revenue interest..

1 MR. KELLOGG: Yes, that 78% contains practically everybody in  
2 the SW/4 doesn't it?

3 MR. BAUER: It contains everyone in the SW/2 , with the excep-  
4 tion of a bit of a two parties that didn't send it in period.  
5

6 MR. KELLOGG: Ya, well, it came pretty close to 100% in the  
7 SW/4?

8 MR. BAUER: Yes.

9 MR. KELLOGG: And to have made 78%, it would have to have  
10 been about 25% in the SE/4, wouldn't it? Roughly, just roughly.

11 MR. BAUER: I couldn't answer that yet without. .

12 MR. KELLOGG: But of that part of the SE/4 that included your  
13 interest which you owned.  
14

15 MR. BAUER: Oh yes. We could also have included three royal-  
16 ty owners that only own in the E/2.

17 MR. KELLOGG: And your interest in the SE/2 was around 35%  
18 of the working interest.

19 MR. BAUER:  $38\frac{1}{2}$  or something like that.

20 MR. KELLOGG: Okay, that's all.

21 MR. DAVIDSON: Governor, in light of his answer to Mr. Kellogg's  
22 question, he said it included three that only owned in the E/2.  
23

24 MR. BAUER: That's right.

25 MR. DAVIDSON: And are these any of the three that revoked their  
26 signatures?

27 MR. BAUER: No, no they're not.

1 MR. DAVIDSON: These three have not revoked their signatures?

2 MR. BAUER: Home State and Royalty Corporation, Home State  
3 Oil and Gas Company, and the First Trust Company of St. Paul.

4 MR. DAVIDSON: That's a trustee for some of the Hunt family,  
5 isn't it?  
6

7 MR. BAUER: No, for Louis Hill's child.

8 MR. DAVIDSON: I mean from the Hill family, is that right?

9 MR. BAUER: Yes.

10 MR. DAVIDSON: And this is the same Hill that is your partner?

11 MR. BAUER: That's right.

12 MR. DAVIDSON: In the SW/4?

13 MR. BAUER: It's a trust, and the First Trust Company of St.  
14 Paul is the trustee.  
15

16 MR. DAVIDSON: But everyone else either revoked or refused to  
17 sign it?

18 MR. BAUER: No, two oil corporations that own only in the E/2.

19 MR. DAVIDSON: Home State Royalty Corporation. I'm sorry.

20 MR. BAUER: Home State Royalty Corporation, Home State Oil  
21 and Gas. Notwithstanding the fact that their production was cut  
22 in half.  
23

24 GOVERNOR GUY: At this point, I'm going to ask that we recess  
25 until 1:00.

26 DR. NOBLE: Will you... do you have further questions, Mr. Dav-  
27 idson?

1 MR. DAVIDSON: Just a few questions. Mr. Bauer, as you have  
2 already testified that you are an attorney, and I'm going to ask  
3 you whether or not you've been on behalf of North American Roy-  
4 alties, contact the crude oil purchaser under the Shank well and  
5 advised them that they were or should withhold any payment by  
6 reason of the fact that you had filed this adverse application for  
7 spacing in the S/2 of the section.  
8

9 MR. BAUER: I contacted Rock Island Oil Company.. of Koch In-  
10 dustries, who I had been advised was purchasing the crude oil  
11 from this well, and alerted them to the fact that there was a dis-  
12 pute as to the proper ownership of that oil, and requested that they  
13 hold the runs in suspense, pending the final outcome of this mat-  
14 ter.  
15

16 MR. DAVIDSON: So then, Mr. Bauer, isn't it a fair statement  
17 to say that as an attorney you have reached the conclusion, or the  
18 opinion that the filing of such an adverse application--or the pos-  
19 sible filing of such an adverse application--throws such a cloud  
20 on the pay so as to not allow any producer subject to this possibil-  
21 ity from ever obtaining any royalty interest or working interest  
22 of without some sort of final determination of the question?  
23

24 MR. BAUER: No, not exactly, Mr. Davidson. I feel that I had a  
25 responsibility to my company and to all the lessors--the lessors  
26 that we have in the SW/4 of 15 as well as in the E/2 of 15--to hold  
27 the royalty in suspense and not have it improperly distributed until



1 there was a final adjudication of the property ownership as a re-  
2 sult of proper spacing.

3 MR. DAVIDSON: Would your opinion have been the same had you  
4 not filed the application?

5 MR. BAUER: Yes.

6 MR. DAVIDSON: So, in other words, it could be suspended on  
7 that different item?

8 MR. BAUER: No, until there was a decision made--rendered.  
9 We have a responsibility to our lessors on a number of things--  
10 and one is that the proper amount of royalty to be distributed to  
11 them. Secondly, that the right price--the highest price that we  
12 can find for the crude oil--be paid to them. And these are two  
13 of the most important things that I considered in requesting the  
14 suspension of the well. It's not an unusual thing in the oil trade  
15 to ask for a suspension of royalty. I think...

16 MR. DAVIDSON: What if the E/2 had been voluntarily pooled?

17 MR. BAUER: If the E/2...

18 MR. DAVIDSON: Had been voluntarily pooled.

19 MR. BAUER: Yes?

20 MR. DAVIDSON: Do you feel that some mineral interest owner  
21 in the W/2 could have filed this application?

22 MR. BAUER: Yes, I feel that if it had been voluntarily pooled,  
23 we'd have a moot question as far as our case today. If everyone  
24 in the E/2 would have agreed to this matter, it's ah..it really isn't

1 a question in point.

2 MR. DAVIDSON: My question to you is do you feel that in that  
3 situation if there had been someone in the W/2 who had no owner-  
4 ship in the E/2, that they could have had at any time, filed this  
5 very same application and suspended all payments?  
6

7 MR. BAUER: I believe they could.

8 MR. DAVIDSON: Forever?

9 MR. BAUER: No, not forever. If they'd have brought a proceed-  
10 ing, whether it be in the Industrial Commission or before a court  
11 that...it is a law. I feel that they have the property rights just  
12 as much as North American has.  
13

14 MR. DAVIDSON: How..how long should the producer then hold  
15 up to determine whether or not they should pay out this money?

16 MR. BAUER: You always are concerned with the titles--the val-  
17 id title, and as I understand it, Cardinal distributes royalty bas-  
18 ed on 100% division order of their own and a letter of indemnity  
19 to the purchaser. Does that answer your question?  
20

21 MR. DAVIDSON: Yes.

22 MR. BAUER: I would say until there is..you were in a safe po-  
23 sition. Now the purchaser of the crude oil--which is Rock Island--  
24 this is their decision to make. I requested that they suspend roy-  
25 alty payments until this matter was decided. It is their decision  
26 to make.

27 MR. DAVIDSON: What if you hadn't filed the application, could

1 you have filed it in a year or two years, or three years, or how?

2 MR. BAUER: What Mr. Davidson, has taken place in a short  
3 time--a matter of a few weeks or months.

4 MR. DAVIDSON: But you agree that there is no statutory provis-  
5 ion as to how long that the adverse owner would have the right to  
6 file the application?  
7

8 MR. BAUER: I don't know of any statutory limitation, but there  
9 would be an estoppel created here, as you know, if you waited too  
10 long.

11 MR. DAVIDSON: An estoppel is a legal question, and has been.

12 MR. BAUER: You were asking me a legal question?  
13

14 MR. DAVIDSON: But in an answer to that, an estoppel is a legal  
15 question.

16 MR. BAUER: Right.

17 MR. VANDEWALLE: Well, Mr. Davidson, even if North American  
18 Royalties hadn't filed an application, Cardinal would have had to,  
19 in this instance, would they not? Because they had..you have an  
20 example involuntary pooling and whether or not North American  
21 filed an application you would have had to file an application..  
22

23 MR. DAVIDSON: Yes, and also brought out the situation where  
24 the E/2 had been voluntary pooled. Couldn't it not?

25 MR. VANDEWALLE: It might have, but the question that was pre-  
26 sented was if--how long could someone in the E/2 do this--how  
27 long could they wait to file. Well, if you file an application with-

1 out North American Royalties, then their application for involun-  
2 tary pooling was granted, wouldn't that be the end of it then?

3 MR. ROBERTS: It would not be involuntary pooling.

4 MR. VANDEWALLE: But we don't...what we're talking about is  
5 hypothetical, because you have the case on here because you...  
6 you do not have voluntary pooling..

7  
8 GOVERNOR GUY: Can we move this case on a little bit faster,  
9 and not replot any of the same ground twice?

10 MR. KELLOGG: I have no further questions, but I would like to  
11 make a statement for the record--to the record--for the repre-  
12 sentation of the Shank...Mr. Shank..and ah..that is by appear-  
13 ing here, we do not acknowledge the validity of any of the claims  
14 by North American and the...that is not acknowledged and that  
15 we in fact, disclaimed that they have any valid reason of such in-  
16 terest.

17  
18 MR. VANDEWALLE: Mr. Kellogg, you also agree, of course,  
19 that this Commission has no authority...

20 MR. KELLOGG: Yes, I just want to make the record clear that  
21 we are not acknowledging such interests here and...

22  
23 MR. THAMES: One more question on direct examination of Mr.  
24 Bauer. Mr. Bauer, a great deal of questions have been asked of  
25 you relating to managing decision which you have made in relation  
26 to the correlative rights and the decisions to join or not join wells.  
27 What is the basis upon which you have made these management de-

1 cisions?

2 MR. BAUER: I..my decision...

3 MR. KELLOGG: I couldn't hear the last part of your question.

4 MR. THAMES: What is the basis upon which he has made these man-  
5 agement decisions?  
6

7 MR. BAUER: The basis of my management decision in this mat-  
8 ter are a summation of what my staff--it isn't very large, it's  
9 composed of a geologist, and a consulting engineer and myself  
10 constitutes it, with some of our other people in our management  
11 section. That is the foundation of my decision and it comes down  
12 to this, very simply. That we could not support joining in a well  
13 where the spacing unit was going to be the E/2 of Section 15 when  
14 such a thing would, in our opinion--based on my geological en-  
15 gineering evaluation--result in attributing to the ownership of the  
16 NE $\frac{1}{4}$ , a portion of the production which they are not justified in  
17 having. This decision proceeds right on from the beginning on  
18 through the end. It was my decision. This proceeds from our  
19 efforts and is the same kind of information I base my decision on.  
20 The S/2 of Section 15 gives in an equitable manner--it can't reach  
21 perfection. An equitable distribution of reserves from all of Sec-  
22 tion 15 really..and that is the S/2 of the Section. No matter whom  
23 that was by.  
24  
25

26 MR. THAMES: No further questions, Mr. Bauer.

27 GOVERNOR GUY: Did you..did North American Royalties propose

1 to join with Cardinal in drilling the well if the S/2 of 15 had been  
2 the spacing unit?

3 MR. BAUER: Yes, sir. In the conversations I had with Hugh on  
4 March the 6th.

5 MR. VANDEWALLE: Mr. Bauer, you have implied that the an-  
6 swer that...yet assuming, which is the fact that you and Cardin-  
7 al cannot reach an agreement, would you have filed an application  
8 to drill designating the S/2 as the spacing unit, and would you  
9 have drilled that well?  
10

11 MR. BAUER: Yes, we would have been in contact with other work-  
12 ing interest owners which were Helmerich & Payne, Houston-Hoff-  
13 man, and Continental Oil Company, and statistically the F. E. D.'s,  
14 etc., if they joined us--voluntary joined us--in.. But at the same  
15 time, the application to file a drilling permit was granted to  
16 Cardinal. The state could not give it to us--we talked about that.  
17

18 DR. NOBLE: Are there further questions of the witness? If not,  
19 this witness may be excused. Do you have other witnesses, Mr.  
20 Thames?

21 MR. THAMES: One more witness, Mr. Joe Kralicek, a landowner  
22 under the SW/4 of Section 15. He has previously testified. Mr.  
23 Kralicek, would you spell your name please?  
24

25 MR. KRALICEK: K-r-a-l-i-c-e-k.

26 MR. THAMES: Mr. Kralicek, do you own the surface and some  
27 of the mineral interests under the SW/4 of Section 15?

1 MR. KRALICEK: Yes, I do.

2 MR. THAMES: And do you have a statement to make to the Corn-  
3 mission?

4 MR. KRALICEK: Yes.

5 MR. THAMES: Would you please tell the Commission.

6 MR. KRALICEK: Well, I also--before we go on, I also have an  
7 authorization here which authorizes me to speak in benefit of  
8 Frank Veverka. He was ill and wasn't able to come here. He  
9 owns the mineral interests in this quarter also.

10 DR. NOBLE: Would you repeat the last...just for the benefit of  
11 Mr. Davidson?

12 MR. KRALICEK: Yes, well, I'm authorized to represent Frank  
13 Veverka seeing he was ill and couldn't come down with me. He's  
14 the man I bought the land from and he withheld a certain amount  
15 of mineral interest in it, so I..when I talk for myself, I'm also  
16 talking for him.

17 DR. NOBLE: Is it V-e-v-e-r-k-a? Okay, you may proceed.

18 MR. KRALICEK: Seeing as..seeing as this Shank well is only  
19 660 feet away from the Section 15--SW/4 which is definitely get-  
20 ting drained of a lot of the oil. The Wolfe well has been in pro-  
21 duction since January and this one is producing, like I said, 660  
22 feet I imagine somebody said from my fence line, and this other  
23 NE/4 which we're talking about is actually about 1300 feet away,  
24 or something like that, roughly. And seeing as we have this 360-

1 acre spacing, I don't see why some of these people in the E/2  
2 should actually double their production, where us here in the SW  
3 are actually right next to the well and who could possibly be left  
4 out altogether.  
5

6 MR. VANDEWALLE: Ah..who is your land under lease to?

7 MR. KRALICEK: North American Royalties..my mineral inter-  
8 ests are.

9 MR. THAMES: Are there any questions of Mr. Kralicck?

10 DR. NOBLE: The witness may be excused. Do you have any fur-  
11 ther witnesses, Mr. Thames?

12 MR. THAMES: We rest. We would make a closing statement,  
13 but perhaps it should be reserved until the other side has made  
14 their presentation.  
15

16 DR. NOBLE: Okay, we will give you the opportunity.

17 MR. THAMES: Thank you, sir.

18 DR. NOBLE: Other testimony in Cases No. 1004 or 1005?

19 MR. DAVIDSON: We call on Mr. Hugh Palmer, please. State  
20 your name, and address and present employment.  
21

22 MR. PALMER: I'm Hugh Palmer, Billings, Montana. Cardinal  
23 Petroleum Company.

24 MR. DAVIDSON: And in what capacity?

25 MR. PALMER: President.

26 MR. DAVIDSON: And are you also a managing officer of the Com-  
27 pany?



1 MR. PALMER: Yes, sir.

2 MR. DAVIDSON: Were you present in the courtroom when Mr.  
3 Art Bauer testified as to a conversation on March 6th, of 1970?

4 MR. PALMER: I was.

5 MR. DAVIDSON: And who placed that phone call?

6 MR. PALMER: I placed the phone call to Art.

7 MR. DAVIDSON: From Billings?

8 MR. PALMER: From Billings.

9 MR. DAVIDSON: To where?

10 MR. PALMER: To Bismarck, on March 6th.

11 MR. DAVIDSON: Did...did you agree with Mr. Bauer's inter-  
12 pretation of that phone call?

13 MR. PALMER: Not entirely, no.

14 MR. DAVIDSON: What was said to you and what did you say in  
15 return?

16 MR. PALMER: I called Mr. Bauer when geological engineers  
17 brought me a report showing that the well--the Wolfe well--was  
18 producing 600 barrels of oil a day and had been for 45 days. And  
19 I called Mr. Bauer to see what his intentions was in Section 15.  
20 I asked him to run the spacing North and South in Section 15 and  
21 he said he wasn't ready to drill, but when he was, but when he  
22 was, he'd run it east and west. And I said well, we'll cut our  
23 interests down and he said that's correct. And I said well, in  
24 that particular case, we may have to let you carry us, we'd only

1 have 15%, but when you're ready, you let us know. And he said.  
2 I said..you're draining it now. And he said that's your problem.  
3 So I waited two weeks for him to make a move--he could have  
4 went in, spaced it, he had acres in the SE/4. He could have per-  
5 mitted that well and run it East and West. It was permitted in  
6 the S/2. I gave him two weeks to make his mind up--he didn't  
7 make it up, I took steps to correct the problem, that he said I  
8 had.  
9

10 MR. DAVIDSON: And what was that problem?

11 MR. PALMER: To run it North and South and Cardinal put up all  
12 the money.

13 MR. DAVIDSON: And Cardinal drilled the well.

14 MR. PALMER: And we put up about 96% of the money and only  
15 own about 35% of the property, because our geologists said it  
16 would produce; our engineers said it would produce, and it was  
17 just that simple. We took the risk; we drilled the well.  
18

19 MR. DAVIDSON: And, I assume that the results of your drilling  
20 operation supported..

21 MR. PALMER: Correct. And at that time..by the time we got  
22 around to permit it and then drill the well and get on production,  
23 they had produced some...in excess of some 100,000 dollars  
24 worth of oil out of the Wolfe well, and we also have an obligation  
25 to our lessors.  
26

27 MR. DAVIDSON: And are you here fulfilling that obligation?

1 MR. PALMER: That's exactly right.

2 MR. DAVIDSON: I have no further questions.

3 MR. THAMES: No questions.

4 DR. NOBLE: No questions.

5  
6 GOVERNOR GUY: I would ask Mr. Palmer..you've spoken of the  
7 Wolfe well draining oil from Section 15. In view of the location  
8 of the Wolfe well, do you think the major drainage has taken place  
9 from the SW/4 of 15 or the SE/4 of 15?

10 MR. PALMER: According to our geological maps and stuff, we  
11 was basing our..I'd say it's about equal.

12 GOVERNOR GUY: But you would say...you would say that the  
13 distance between the Wolfe well and the SW/4 is shorter than the  
14 distance between the Wolfe well and the Cardinal #15 in the SE/4?

15 MR. PALMER: Correct, but Cardinal had no obligation to pro-  
16 tect the lessor in the SW of 15.

17 GOVERNOR GUY: But, would you say that..what would cause you  
18 to say that the drainage in the SE/4 would be as great as that in  
19 the SW/4?

20 MR. PALMER: I think our geological interpretation of the area  
21 would like to bear that out.

22 GOVERNOR GUY: In other words, distance is not a factor from...

23 MR. PALMER: No, I'm...I'm convinced, and I think most people  
24 are convinced that the drainage pattern is wide in that particular  
25 formation--probably much wider than 320 acres.  
26  
27

1 GOVERNOR GUY: There will be two wells draining all of SW 15,  
2 isn't that correct?

3 MR. PALMER: We have an application to drill in the NW of 15  
4 and space the SW of 15 with it, which would protect the correlative  
5 rights of the SW of 15 and we hope that North American would  
6 join us in drilling that well. This well has been permitted, staked,  
7 and as soon as they decide what they want to do, we're ready to  
8 put our money up because evidently...

9 GOVERNOR GUY: Would..would you be willing to continue with  
10 the permitted location in the NW/4 of 15 if the spacing unit runs  
11 East and West?

12 MR. PALMER: Ah..we would..we think it would produce. We  
13 don't have any doubt in our mind of what it will produce, but the  
14 fact is--the thing that would disturb me is that we have put up all  
15 the capital investment. We put up 100%--or almost 100% of the  
16 money that nobody else would drill. We took all the risk out of  
17 the whole area because from testimony, it's evident that their  
18 geologist didn't think that location would produce. But, Dickinson  
19 has..has continued to do the same thing--it stops, and then some  
20 idiot would drill a well out a ways and here comes the oil again.  
21 So then you have to go start again, so then you drill another bunch  
22 of contours and somebody will jump up and do it again, and I don't  
23 know where the Dickinson field is going to stop. It may stop at  
24 the river up there. We have ah..Governor, we have taken..we've

1 put up our money--we've put up all the money. There was no way  
2 to get the well drilled without us putting up almost all the money,  
3 and if that would have been a dry hole, we were gambling about  
4 65,000 bucks that it would make oil, and nobody else would do it,  
5 or didn't do it. Now, I'm..I'm--this is only my personal opinion--  
6 I suspect that ah..if North American hadn't had the Wolfe well,  
7 they might have taken a different look, and their maps may have  
8 been a little different.

9  
10 GOVERNOR GUY: Now the development of this area, which in-  
11 cludes four wells all within a mile of one another, is..is consid-  
12 erably more rapid than is usual in an oil find, isn't that right?  
13 Now there are four wells that have been drilled in 1970--all in a  
14 mile, which is quite rapid development, isn't that the truth?

15  
16 MR. PALMER: I think the East side of Dickinson--once it start-  
17 ed stepping out, developed that fast. And I know this, that if Car-  
18 dinal would have owned some of that acreage, it would have devel-  
19 oped faster than it did.

20 DR. NOBLE: Are there further questions of Mr. Palmer?

21  
22 MR. VANDEWALLE: I have one. Mr. Palmer, with regard to  
23 the proposed ah..well in the NW of 15, if the Commission deter-  
24 mines that the spacing unit should be the E/2 and if North Ameri-  
25 can Royalties refuses to join in the drilling of the well in the NW/4,  
26 do you still propose to go ahead and drill?

27 MR. PALMER: We'll put up all the money and drill the well.

1 That's how much we think it'll produce. North American--if they  
2 refuse, just like they wouldn't put up any money on the one we've  
3 got--we'll put it all up again; we're in the oil business, and we  
4 cannot make any money without crude oil. There is no other way  
5 to make money unless you get crude oil.  
6

7 DR. NOBLE: Does anyone else wish to question the witness?

8 MR. THAMES: Mr. Palmer, who did the development? Who  
9 drilled most of the wells in this part of the field?

10 MR. PALMER: North American Royalties and Continental Oil.

11 MR. THAMES: Thank you.

12 GOVERNOR GUY: Any further questions? You may be excused.  
13 Yes, go ahead.

14  
15 MR. DAVIDSON: State your name.

16 MR. ROBERTS: Donald K. Roberts, Billings, Montana.

17 MR. DAVIDSON: By whom are you employed?

18 MR. ROBERTS: Employed by Cardinal Petroleum Company.

19 MR. DAVIDSON: In what capacity?

20 MR. ROBERTS: As an Attorney and Manager of the Land Depart-  
21 ment.

22  
23 MR. DAVIDSON: What is your educational background?

24 MR. ROBERTS: I have a BS Degree in Geological Engineering,  
25 an MS in Petroleum Engineering and a Law Degree.

26 MR. DAVIDSON: Are you familiar with the location of the Dickin-  
27 son Field?

1 MR. ROBERTS: Yes, sir.

2 MR. DAVIDSON: And have you prepared a map showing the Dick-  
3 inson Field and the West-Dickinson Field?

4 MR. ROBERTS: Yes, sir. If we could very briefly--yes, sir,  
5 this is a land presentation that North American Royalties present-  
6 ed which may be of interest to the Commission. What it does show  
7 is the delineation of the Dickinson and West-Dickinson Field, which  
8 is spaced on 320-acre spacing, and then the area which includes  
9 the Shank well Zone 2 of Dickinson Field, which is spaced on 320-  
10 acre spacing. We have also shown on the exhibit the present pat-  
11 tern of spacing units as you see from the 320-acre spacing unit  
12 that do exist both in West-Dickinson and Dickinson. There is no  
13 particular delineation--some of them run North/South and some  
14 of them run East/West. Our well--the well here in question to-  
15 day, is located here in the SW SE of Section 15. Also shown on  
16 the map are the two locations, permits for which have been ap-  
17 proved by the State Geologist to Cardinal Petroleum Company.  
18 And here is the Wolfe well--North American's Wolfe well--loca-  
19 ted in the SW NW of Section 22.

20 MR. DAVIDSON: Mr. Roberts, did Cardinal Petroleum Company  
21 make an application before the confrontation of the State Geologist?

22 MR. ROBERTS: Yes, sir, on March 25th, 1970, after the con-  
23 versation that has been previously discussed here this afternoon  
24 with North American, Cardinal's decision was that to protect its  
25

1 lessors and its interests that something had to be done to prevent  
2 drainage in Section 15, so it was our decision to make applica-  
3 tion for a drilling permit and to drill a well in the SW SE of Sec-  
4 tion 15. That permit was filed on March 25th, 1970. The appli-  
5 cation designated the E/2 of that section as the spacing unit; the  
6 permit was approved and issued on March 30th, 1970, by Edwin  
7 A. Noble, State Geologist.

9 MR. DAVIDSON: Do you have copies of those...that application  
10 to be marked as Exhibit 2?

11 MR. ROBERTS: That's correct.

12 MR. DAVIDSON: Did you--have you prepared an exhibit on the  
13 mineral and leasehold interests in the E/2 of Section 15?  
14

15 MR. ROBERTS: Yes, sir.

16 MR. DAVIDSON: Is that marked as Exhibit 3?

17 MR. ROBERTS: Yes, it is.

18 MR. DAVIDSON: And have you prepared an exhibit showing the  
19 mineral and leasehold interests in the W/2 of Section 15?  
20

21 MR. ROBERTS: Yes, sir, I have.

22 MR. DAVIDSON: And is that marked as Exhibit 4?

23 MR. ROBERTS: That's correct.

24 MR. DAVIDSON: I note on Exhibit 3 you have made an asterik  
25 next to the name of E. E. Rakowski and Jacob Shank and Kathryn  
26 Shank as joint tenants.

27 MR. ROBERTS: That's correct, that is in there because we were



1 notified by Mr. Shank and Mr. Rakowski very recently that there's  
2 a dispute, apparently, as to whether or not those leases to North  
3 American are still in full force and effect. The lessors consider  
4 that these leases have terminated, and we were given notice--  
5 served notices--as the operator of the well.

6  
7 MR. DAVIDSON: Now return again to Exhibit 3. Does your ex-  
8 hibit show that there is a common ownership of minerals in the  
9 E/2?

10 MR. ROBERTS: Yes, it does. They are badly divided, but Sec-  
11 tion, the E/2 of Section 15, is common mineral ownership, which  
12 is one reason that we felt an obligation to make the spacing unit  
13 for that well the E/2 of Section 15. There is no one in the E/2 of  
14 Section 15 who owns minerals in the W/2 of Section 15 with the  
15 exception of North American Royalties.

16  
17 MR. DAVIDSON: Why was Cardinal prepared to drill a well in  
18 the SW/4 of the SE/4 of Section 15?

19 MR. ROBERTS: I think, as Mr. Palmer has pointed out, the de-  
20 velopment of the Dickinson Field towards the NE since January,  
21 North American completed the Wolfe, which is producing in ex-  
22 cess of 600 barrels of oil per day; Continental Oil Company has  
23 completed the Jilek well in the SW NW of Section 23, which is  
24 producing around 400 barrels a day. The Wolfe well went on pro-  
25 duction in January of 1970. Being in the oil and gas exploration  
26 business, we felt that it was logical that a well should be drilled  
27

1 in Section 15. It's a step-out to production, and if you're going  
2 to look for oil and gas, that's something you're going to do is drill  
3 the location here. As Mr. Palmer testified, we attempted to get  
4 the other working interest owners to cooperate with us and joint-  
5 ly drilling a well in Section 15. We were unsuccessful. We felt  
6 that serious drainage was occurring to all lessors and to all lease-  
7 hold interests and the decision was made, we decided we couldn't  
8 wait any longer; we made the decision that if nobody would go with  
9 us, we'd take all risks ourselves, with J. Hiram Moore concurred  
10 in our recommendation, and these two parties drilled the Shank  
11 well. The..to show you the seriousness of what had taken place  
12 by March 6th, which is the date that Mr. Palmer called Mr. Bauer;  
13 the Wolfe well had produced 21,000 barrels of oil; by the time we  
14 obtained our permit, which was on March 31, 1970, the Wolfe  
15 well had produced 37,000 barrels of oil; and by the time that Car-  
16 dinal, in June, got their well on production, the Shank well--the  
17 North American Wolfe well--had produced 82,000 barrels of oil,  
18 and I understand now from their exhibit it's produced over a 100,000  
19 barrels of oil and we heard testimony to the effective that pay out  
20 is somewhere around 80 or 90,000 barrels of oil. So the Wolfe  
21 well essentially had paid out before Cardinal got their well on pro-  
22 duction.

23 MR. DAVIDSON: Did you request participation in the Shank well  
24 prior to drilling?  
25

1 MR. ROBERTS: Yes, sir, we did. In addition--

2 MR. DAVIDSON: In what manner did you request participation?

3 MR. ROBERTS: In addition to the telephone conversation that  
4 Mr. Palmer spoke of, we on April 14, 1970, requested that the  
5 other working interest owners in the E/2 of Section 15, in writing,  
6 join us in the drilling of a well with the spacing unit the E/2 of  
7 Section 15.  
8

9 MR. DAVIDSON: And to whom was that letter addressed?

10 MR. ROBERTS: It was addressed to North American Royalties  
11 and Louis W. Hill.

12 MR. DAVIDSON: Do you have that in the form of an exhibit?  
13

14 MR. ROBERTS: Yes, sir.

15 MR. DAVIDSON: What is the Exhibit number?

16 MR. ROBERTS: Exhibit #5.

17 MR. DAVIDSON: Did you receive a response to this request?

18 MR. ROBERTS: Yes, sir, we did.

19 MR. DAVIDSON: And ah.. in what manner was the response?

20 MR. ROBERTS: Ah.. on April 17th, we received a letter from  
21 Arthur C. Bauer, in which he stated that he was not agreeable to  
22 our proposal with the spacing unit being the E/2.. he pointed out  
23 North American and Louis Hill's interests as to the S/2 and E/2  
24 of Section 15. He said for this reason, it would be to the advan-  
25 tage of North American to space this well in the S/2 of Section 15,  
26 and he declined to join in our proposal for a well to be drilled in  
27

1 that location with the spacing unit the E/2.

2 MR. THAMES: Would you read the rest of the letter please?

3 MR. ROBERTS: The whole letter too?

4 MR. THAMES: After he declines.

5  
6 MR. ROBERTS: "I am of course interested in doing the best I  
7 can for our company, and realize you are interested on behalf  
8 of Cardinal, but we strongly feel the equities of this situation re-  
9 quire that the oil underlying the SW/4 of 15 should be included with-  
10 in the spacing unit being drained by a well in the SW SE of 15. It  
11 is our feeling the NE/4 of 15 should be joined to the NW/4 of 15  
12 where the 320 acre unit of production for a well located in the SW  
13 NW of 15. We would also insist that North American Royalties  
14 be the operator of the wells to be drilled in the SW SE of 15 and  
15 if a well is drilled in the SW NW of 15 and in the SW NW of 14,  
16 North American Royalties also be the operator of these wells. We  
17 will await your reply.

18  
19 MR. DAVIDSON: Did you receive a response from Mr. Hill?

20 MR. ROBERTS: Yes, sir.

21  
22 MR. DAVIDSON: In what manner?

23 MR. ROBERTS: A letter dated April 21st. He says, as you will  
24 remember I'm closely associated with North American Royalties  
25 of Bismarck. He said that he agreed with North American that  
26 for his interest, he would definitely prefer the basis for spacing  
27 be the S/2 instead of the E/2.

1 MR. DAVIDSON: Do you have that in the form of an exhibit?

2 MR. ROBERTS: Exhibit #7.

3 MR. DAVIDSON: Did you, at any time again, request participa-  
4 tion by North American Royalties and Mr. Hill?

5 MR. ROBERTS: Yes, sir.

6 MR. DAVIDSON: At what point?

7  
8 MR. ROBERTS: May 8th, 1970, by telegram to Mr. Bauer and  
9 Mr. Hill, we again requested that they join us in the drilling of  
10 a well in the SW SE of 15, with Cardinal as the operator. We  
11 were, at that time, rigging up and planned to commence drilling  
12 operations the first of the week.

13 MR. DAVIDSON: And is that in the form of an exhibit?

14 MR. ROBERTS: Exhibit #8.

15 MR. DAVIDSON: Did you receive a response?

16 MR. ROBERTS: Yes, sir. We received a letter from Mr. Bauer  
17 on May 11, 1970, acknowledging our telegram.

18 MR. THAMES: Read it all.

19  
20 MR. ROBERTS: The whole letter? "I wish to acknowledge the  
21 receipt of your telegram of May 8th, 1970, requesting that we  
22 join in drilling a Tyler Test in the SW SE of 15, 140-96, Stark  
23 County, North Dakota, with Cardinal as operator with the spacing  
24 unit for such wells be the E/2 of 15. As you know, I was out of  
25 the office the day that the telegram was received, and this is my  
26 first opportunity to answer. I talked with Louis W. Hill on the  
27

1 telephone this morning, and wish to advise you that we have not  
2 changed our position with regard to the drilling of the subject well.  
3 We strongly reaffirm the position that we took in my letter of Ap-  
4 ril 17th, 1970--the spacing unit for the subject well should be the  
5 S/2 of 15, in order to protect the correlative rights of all parties  
6 and in addition, North American Royalties should be the operator  
7 of the well. We urge that you do not commence drilling operations  
8 until a mutual understanding has been arrived at between all par-  
9 ties."

11 MR. DAVIDSON: And did you receive a response---is that mark-  
12 ed as Exhibit 9?

13 MR. ROBERTS: That is Exhibit 9.

14 MR. DAVIDSON: And did you receive a response from Mr. Hill?

15 MR. ROBERTS: Yes, sir. May 11, 1970. Do you want me to  
16 read all of this one too? I--this is from Mr. Louis W. Hill. "I  
17 have your wire of May 8, 1970, again requesting my approval to  
18 join Cardinal in drilling the Tyler Test in the area described a-  
19 bove. In my letter to you, dated April 21, 1970, I outlined my  
20 preference in this matter and I am sorry that I have had no reason  
21 to change my mind since. Mr. Arthur Bauer of North American  
22 Royalties is sending you a wire today restating their position. I  
23 have discussed this with Mr. Bauer and you can accept this tele-  
24 gram--his telegram--as speaking for me also."

25 MR. DAVIDSON: Did you ever receive that telegram?

1 MR. ROBERTS: No.

2 MR. DAVIDSON: Did you submit a similar request from other  
3 working interest owners?

4 MR. ROBERTS: The only other working interest owner was J.  
5 Hiram Moore.

6 MR. DAVIDSON: And did you submit a similar request to him?

7 MR. ROBERTS: Yes, sir, we did, with a letter and an AFE,  
8 which was approved on April 22nd, 1970.

9 MR. DAVIDSON: And is that in the form of an exhibit?

10 MR. ROBERTS: Exhibit #11.

11 MR. DAVIDSON: Did North American or Mr. Hill, who refused  
12 to participate, have an interest in another production in the area?

13 MR. ROBERTS: Yes, sir, they did.

14 MR. DAVIDSON: And..describe that.

15 MR. ROBERTS: As I pointed out before, they have a substantial  
16 interest--I think Mr. Bauer testified 50%--in the Wolfe well, lo-  
17 cated in the SW NW of Section 22.

18 MR. DAVIDSON: And do you agree with the previous testimony  
19 that..that well was draining both to the SW and SE of Section 15?

20 MR. ROBERTS: Yes, sir, I would.

21 MR. DAVIDSON: I assume that you commenced to drill the well.

22 MR. ROBERTS: We commenced drilling the well on the 18th of  
23 May..we would have commenced sooner, but that was the 4 or 5  
24 inches of rain in Dickinson at that time. The well was drilled and  
25

1 completed in early June.

2 MR. DAVIDSON: During the process of drilling, did you provide  
3 North American Royalties with information concerning the well?

4 MR. ROBERTS: Yes, sir.

5 MR. DAVIDSON: What did you provide?

6 MR. ROBERTS: Daily drilling reports.

7 MR. DAVIDSON: What is the current production on the Shank  
8 well?

9 MR. ROBERTS: 400 barrels a day.

10 MR. DAVIDSON: Now, since you have obtained production, have  
11 you requested that the mineral owners in the E/2 of Section 15 give  
12 application to designate the E/2 as the spacing unit?

13 MR. ROBERTS: Yes, sir, we have.

14 MR. DAVIDSON: And have you put those replies in the form of an  
15 exhibit?

16 MR. ROBERTS: Yes, sir. It's Exhibit #12. By our last calcu-  
17 lation, we had the support of 80%--80plus % of the mineral owners  
18 in the E/2 of Section 15. Essentially, the only mineral owners  
19 who are not supporting us that we know of are North American  
20 Royalties, the Hill Trust and Home State Royalty Company.

21 MR. DAVIDSON: By the way, were you in the hearing room this  
22 morning when Mr. Bauer testified that... we'll just wait for that  
23 question for the time being. At any time, Mr. Roberts, did you...  
24 did you know whether or not North American and Hill--Mr. Hill--



1 agreed to pay their part of the cost and drill a well designating  
2 the S/2 of Section 15 as a spacing unit?

3 MR. ROBERTS: Not to my knowledge.

4 MR. DAVIDSON: Were you in the hearing room this morning and  
5 you heard Mr. Art Bauer testify as to the fact that the Louis Hill  
6 Trust and Home State in ah., in the mineral interest owners in the  
7 E/2 had signed their.. North American Royalties' communitiza-  
8 tion agreement?

9 MR. ROBERTS: I was.

10 MR. DAVIDSON: And did you receive a response or did you in-  
11 quire of Home State to support you in your application to desig-  
12 nate the E/2?

13 MR. ROBERTS: Yes, sir, we did. I might add that Cardinal  
14 did not sent for execution a communitization agreement as such,  
15 we thought it might be a little premature. What we did was send  
16 a letter to all the interest owners explaining the situation as it ex-  
17 isted--the dispute that was involved and asked them to support  
18 our application.

19 MR. DAVIDSON: Did you receive a reply from Home State con-  
20 cerning your request?

21 MR. ROBERTS: Yes, sir, we did.

22 MR. DAVIDSON: And in what form?

23 MR. ROBERTS: A letter addressed by O. Strother Simpson, the  
24 President of the Company, in which he acknowledged receipt of  
25  
26  
27

1 our letter in which, in regard of the above captioned application.

2 MR. THAMES: Read it all.

3 MR. ROBERTS: "We acknowledge receipt of the copy of your let-  
4 ter of June 22nd to the North Dakota Industrial Commission in re-  
5 gard to the above captioned application, which is a spacing unit  
6 for the E/2 of 15, and your letters of like date to mineral owners  
7 in the E/2 of Section 15, explaining that before drilling the pro-  
8 ducing well in the SW SE of Section 15, you made application to  
9 the North Dakota Industrial Commission to drill thereon designat-  
10 ing the E/2 as the spacing unit and that such application was ap-  
11 proved. We did not know this yesterday when we received from  
12 North American Royalties, Inc. a communitization agreement  
13 pooling and communitizing the minerals under the S/2 of Section  
14 15. Being unaware of the facts set out in your letter yesterday,  
15 we signed and returned to North American Royalties, Inc. the  
16 communitization agreement that they submitted to us. It is ap-  
17 parent, as you point out, that if the spacing unit for the well you  
18 have drilled is established to the South--as the South half rather  
19 than the East half, as your request, the interest to the undersigned  
20 companies in the well would be cut in half and we would, of course,  
21 be prejudiced by this. We, and North American Royalties have  
22 been good friends for many years and we would be unwilling to  
23 take any action that might jeopardize these good relations. Thus,  
24 for these reasons, we believe we are forced to stand by the com-

1 munitization agreement that we signed for North American Royalties  
2 ties and not oppose them in this proceedings, regardless of the  
3 prejudice we may suffer there from."

4 MR. DAVIDSON: We ask that this letter be marked as an exhibit.  
5 It will be, I believe it will be Exhibit #27. This..if the applica-  
6 tion of North American Royalties is granted, have you reviewed  
7 the effect this would have on the mineral interest owners in the  
8 E/2?  
9

10 MR. ROBERTS: Yes, sir, they'd be cut in half, with the excep-  
11 tion of North American, who owns minerals and working interests  
12 in both the SW/2 and the E/2.  
13

14 MR. DAVIDSON: Does Cardinal Petroleum have an interest in the  
15 W/2 of Section 15?

16 MR. ROBERTS: Yes, sir, we do.

17 MR. DAVIDSON: How did you acquire that?

18 MR. ROBERTS: We have under oil and gas lease, the NW/4 of  
19 Section 15--this lease was acquired on July 29th, 1970, after the  
20 expiration date of the previous oil and gas lease on this property.  
21

22 MR. DAVIDSON: Who was the prior owner of that lease?

23 MR. ROBERTS: North American Royalties.

24 MR. DAVIDSON: And why is that?

25 MR. ROBERTS: Its primary term of ten years ran out.

26 MR. DAVIDSON: Why did you obtain the lease?

27 MR. ROBERTS: We obtained the lease...Mr. Harrison's geolog-

1 ic testimony will show this much greater advantage, which you  
2 have a 400 barrel a day well here, a 600 barrel a day well here,  
3 you have the Dickinson oil field which his testimony will show as  
4 open end to the NE. It was our geologist and engineers' recommen-  
5 dation that that was valuable acreage to have and was potentially  
6 productive.  
7

8 MR. DAVIDSON: Did you get an application for a drilling permit?

9 MR. ROBERTS: Yes, sir, we have.

10 MR. DAVIDSON: And on that application, did you designate a  
11 spacing unit?

12 MR. ROBERTS: We designated the W/2 of Section 15 as the spac-  
13 ing unit with the location to be the SW NW of 15. The other permit-  
14 ted location in Section 15.  
15

16 MR. DAVIDSON: Was that permit granted?

17 MR. ROBERTS: That permit was granted--the application was  
18 filed on July 19th, 1970--the permit was granted by the State Geo-  
19 logist on August 3rd of this year.  
20

21 MR. DAVIDSON: And did you mark that as an exhibit?

22 MR. ROBERTS: That's exhibit #13.

23 MR. DAVIDSON: And you made the application at that time?

24 MR. ROBERTS: That's right.

25 MR. DAVIDSON: Have you requested participation of the other  
26 working interest owners in this well?

27 MR. ROBERTS: Yes, sir, we have. We..the working interest

1 owners in Section--in the W/2 of Section 15, according to our rec-  
2 ords, consists of Mr. Hill, North American Royalties, Continent-  
3 tal Oil Company, Helmerich & Payne, and Houston-Hoffman. We  
4 wrote to all of these parties on August 5th, 1970, proposing that  
5 a well be drilled in the SW NW of Section 15. We sent with this  
6 letter that all parties join in and drill the well. we sent with this  
7 letter an AFE, and also suggested accounting procedure to cover  
8 operations, asking that everybody voluntarily pool and that the  
9 well be drilled.  
10

11 MR. DAVIDSON: Is that in the form of an exhibit please, Mr.  
12 Roberts?  
13

14 MR. ROBERTS: That's Exhibit #14.  
15

16 MR. DAVIDSON: Ah., have you received any response to these  
17 requests?  
18

19 MR. ROBERTS: We have, since August 5th--the day we sent the  
20 letter--received three responses. A response dated August 11,  
21 1970 from North American Royalties, which they acknowledged  
22 receipt of our letter. Do you want me to read it all? "We, on  
23 receipt of your letter dated August 5th, 1970, with attached auth-  
24 orization for expenditure covering the drilling of the captioned  
25 proposed well, which is the Kadrmas well in the SW NW of 15.  
26 We note from your letter that you propose the spacing unit for this  
27 well to be the W/2 of Section 15. In view of the fact that the pro-  
per spacing for the 15-15 Shank well, completed in the SW SE of

1 15, has not been determined and will not be determined until af-  
2 ter the August 20th, 1970 Industrial Commission Hearing, North  
3 American Royalties feels that it is premature to consider the  
4 drilling of a well in the SW NW of Section 15."

5 MR. DAVIDSON: Did you mark that as an exhibit?

6 MR. ROBERTS: The three responses collectively, are Exhibit  
7 15. We received a response from Continental Oil Company, who  
8 has approximately 2% interest in the W/2 of 15. Mr. William  
9 Blackburn, dated August 10, 1970. "We have received your AFE  
10 to drill a Tyler Sand test in the SW NW of Section 15, 140-96,  
11 Stark County, North Dakota. We are going to withhold approval  
12 of this AFE, pending the outcome of the hearing on the subject  
13 section scheduled for August 20th, in Bismarck. We will be in a  
14 position to give you our decision on this proposal very shortly af-  
15 ter the order finalizing the spaced area for the well in the E/2 of  
16 Section 15 has been made public." One additional response from  
17 Louis W. Hill, Jr. dated August 12th. "In your letter dated Aug-  
18 ust 5th, you indicated that Cardinal proposed to drill a Tyler Sand  
19 test in the SW NW of 15, 140-96, and that the spacing unit will con-  
20 sist of the W/2 of 15. I do not feel that I can approve of a pooling  
21 agreement or a drilling unit at a time when there's a controversy  
22 over the spacing involved in the Shank well. As you know, I favor  
23 spacing in the S/2 rather than the E/2. In addition to the informa-  
24 tion I have, it appears that the area selected for the Tyler Sand  
25  
26  
27

1 test SW NW of 15 is not a desirable one. I understand the question  
2 of spacing for the Shank well will be considered by the Industrial  
3 Commission on August 20, and I will be interested in its decision."  
4 We have heard no response from either Helmerich & Payne or  
5 Houston-Hoffman.  
6

7 MR. DAVIDSON: Has Cardinal prepared an accounting procedure  
8 for operating the well in the SW SE of 15?

9 MR. ROBERTS: Yes, sir, as...one the obligations in forced  
10 pooling is to prepare costs and operations can be charged so that  
11 the participating interest owners can recover out of production  
12 their costs and also the equitable share of the costs with a non-par-  
13 ticipating owner. For this purpose, we have prepared an account-  
14 ing procedure with which we would like the Commission to approve,  
15 which would be the accounting procedure which would cover our  
16 operations in the 15-15 Shank well.  
17

18 MR. DAVIDSON: Where did you obtain these procedures?

19 MR. ROBERTS: This is a standard form Copas 1962-Joint Oper-  
20 ating Agreement Accounting Procedure. The figures contain  
21 therein the operating charges are based upon an operating agree-  
22 ment covering the Freed well in the S/2 of Section 16, in which  
23 Cardinal was a party and which North American was the operator.  
24 The figures are identical.  
25

26 MR. DAVIDSON: Have you prepared that in the form of an exhib-  
27 it?

1 MR. ROBERTS: Yes, sir, that's Exhibit #16.

2 MR. DAVIDSON: Do you trust that Mr. Thames made an impor-  
3 tant statement this morning?

4 MR. ROBERTS: Yes, sir.

5 MR. DAVIDSON: As an attorney and as a Petroleum Engineer,  
6 would you agree with his statement that a drilling permit does  
7 not mean anything except the right to drill a well?

8 MR. ROBERTS: No sir, I would not. I think that the Commission  
9 has adopted regulations..has--

10 MR. DAVIDSON: Mr. Roberts, my last question was whether or  
11 not you agreed with Mr. Thames' statement that a drilling permit  
12 does not mean anything except the right to drill a well.

13 MR. ROBERTS: No, I don't. A drilling permit must mean some-  
14 thing more--this Commission would not have such things as Rules  
15 102, would not have included in their regulations specific rules  
16 that must be followed in completing a drilling permit as contain-  
17 ed on the instructions of the Form I which you must fill in and  
18 one thing that you must do it says, if there's more than 40 acres  
19 in the drill site, you have to designate the spacing unit for the  
20 well. That's in there for a reason. I think it's in there to estab-  
21 lish what the spacing unit is going to be for the well you're drill-  
22 ing.

23 MR. DAVIDSON: Would it make any difference to your company  
24 if you couldn't rely upon that spacing unit making an economic de-  
25



1 cision to drill an oil well?

2 MR. ROBERTS: If every time you were on rectangular spacing--  
3 which would be either 80's or 320's--and you have obtained a  
4 drilling permit approved by the State Geologist, there will certain-  
5 ly be a serious question as to what really did you have, whether  
6 you could go ahead and drill a well and then wait for a coll... a  
7 collateral attack upon that permit by some stranger off to the side,  
8 so I think you've almost reached the point that you may have to  
9 have a hearing and make sure that nobody's going to interfere  
10 outside of what you've designated as the spacing unit before you  
11 could ever proceed to drill a well in the state of North Dakota  
12 where you have rectangular spacing.  
13

14  
15 MR. DAVIDSON: And once again, referring to Counsel Wilkin's  
16 statement, would you agree with that portion that says that Card-  
17 inal has only minority interests in the E/2?

18 MR. ROBERTS: We have a minority working interest--we have 32  
19 % --35% with Mr. Moore. We have the support of nearly all of  
20 the mineral interest owners in the E/2 of Section 15, with those  
21 exceptions as I previously pointed out--North American Royal-  
22 ties, the Hill Trust, and Home State.  
23

24 MR. DAVIDSON: You may cross-examine.

25 MR. THAMES: Does J. Hiram Moore, according to your records,  
26 own interests in other than the E/2 as far as the spacing unit is  
27 concerned? Does J. Hiram Moore own mineral interests in other

1 than the E/2 of Section 15?

2 MR. ROBERTS: Anything else in Section 15?

3 MR. THAMES: Right.

4 MR. ROBERTS: No, not as far as our records show.

5  
6 MR. THAMES: Mr. Roberts, you stated that the production from  
7 this well--the Shank well--is now approximately at 400 barrels  
8 a day, is this correct?

9 MR. ROBERTS: It's true.

10 MR. THAMES: And that it commenced its production some two  
11 to three months ago at 648 barrels of oil per day?

12 MR. ROBERTS: No, I said the Wolfe well was producing 600 bar-  
13 rels a day.

14 MR. THAMES: What was the Shank well completed for initially?

15 MR. ROBERTS: Initial production of the Shank well I think was  
16 450 after two days.

17 MR. THAMES: And the production has declined 50 barrels a day,  
18 more or less, within how many days of production?

19 MR. ROBERTS: Oh, it's been on production 60 days.

20 MR. THAMES: Now, you're a graduate Petroleum Engineer, are  
21 you not?

22 MR. ROBERTS: That's true.

23 MR. THAMES: Then you gave in your testimony your opinion as  
24 to drainage back and forth--are you familiar with the Horner Tech-  
25 nique?  
26  
27

1 MR. ROBERTS: Yes, sir.

2 MR. THAMES: Are you familiar that this technique can be ap-  
3 plied on a draw-down calculation as well as a pressure-build-up  
4 calculation?

5 MR. ROBERTS: That's true.

6 MR. THAMES: And would this... would not this rapid decline in-  
7 dicate a barrier condition somewhere reasonable close?  
8

9 MR. ROBERTS: No, sir.

10 MR. THAMES: On how do you base that?

11 MR. ROBERTS: I think if you look at any well on the Dickinson  
12 Field, the first few days of production--or first few weeks of pro-  
13 duction--you get a decline down to what the well will level off at.  
14 I don't think the decline rate--and I haven't studied these in de-  
15 tail--in our Shank well is any greater than any other producing  
16 well in Dickinson. I'm sure Mr. Voorhees, who has studied these  
17 in more detail, can answer that question better than I.  
18

19 MR. THAMES: It's my understanding, based upon information  
20 which Cardinal supplied to the North Dakota Geological Survey,  
21 that the initial production was 648 barrels a day.  
22

23 MR. ROBERTS: That must have been for a very brief period. It's  
24 been producing 400 or 450---

25 MR. PALMER: Let me answer that question if you don't mind.  
26 Under your regulations in North Dakota, you've got--you've got to  
27 file an initial production before you can move any oil from the

1 lease, which forces you can file a production report that it is not  
2 true to well at all because you have to run it on a swab test and  
3 that's part of your regulations... you must file a report--a com-  
4 pletion report--to the State Geologist before you can move any  
5 oil from the lease. Therefore, you must run it on a swab guage  
6 or something that is not actually suited to the best and that's any  
7 well in the state, not only this one.

8 MR. THAMES: Have you filed the 30-day final report that's re-  
9 quired--the 30-day production report?

10 MR. ROBERTS: I think you should ask Mr. Voorhees that ques-  
11 tion.

12 MR. THAMES: I derived from your testimony--and please cor-  
13 rect me if I don't understand it--that you never have formulated--  
14 yet attempted--a voluntary pooling of the E/2 by actually sending  
15 to all of the parties a communitization agreement for their signa-  
16 ture, is this correct?

17 MR. ROBERTS: It would be an effort in futility, as we both know.

18 MR. THAMES: But you have not done this formality?

19 MR. ROBERTS: No.

20 MR. THAMES: Now if the Commission should find that the spac-  
21 ing was the S/2 of 15, on the basis of your testimony, would you  
22 recommend drilling a well in the SW NW of 15?

23 MR. ROBERTS: That would take a great deal of study, I think  
24 Mr. Palmer indicated partially the answer to that.

1 MR. THAMES: When did Cardinal obtain the lease on the NW of  
2 15?

3 MR. ROBERTS: The NW of 15? The lease was effective July 29th.

4 MR. THAMES: And when was contact made, if the lease was not  
5 effective on the day it was drawn?  
6

7 MR. ROBERTS: About a week before.

8 GOVERNOR GUY: You'll have to speak louder...

9 MR. ROBERTS: About a week before.

10 GOVERNOR GUY: You're getting so low that we can't hear any-  
11 thing but a mumble down there.

12 MR. THAMES: Did Cardinal own any interests in the NW of 15 at  
13 the time the Shank well was drilled?  
14

15 MR. ROBERTS: No, sir.

16 MR. THAMES: No further questions.

17 MR. KELLOGG: May I ask several questions? Mr. Roberts,  
18 did you hear Mr. Bauer's testimony that he wasn't aware of any  
19 time limit or statute on which the application was made--to change  
20 the spacing unit?  
21

22 MR. ROBERTS: Right.

23 MR. KELLOGG: Do you recall that testimony? You also recall  
24 in his testimony that in his opinion, the person in the SW/4 of 15  
25 would not involve as in the E/2 would have a right to change in  
26 these proceedings.

27 MR. ROBERTS: That's true. That's right.

1 MR. KELLOGG: Do you remember that? Now, if there is no li-  
2 mit, and if such a person has a right under the statutes to bring  
3 such proceedings at any time, what affect would that have on the  
4 development and production of oil from the standpoint of the op-  
5 erator who has to pay out the royalty? What problems does this  
6 create?  
7

8 MR. ROBERTS: I think you would have created a problem that,  
9 before you could either render or approve a division order title  
10 opinion, that you would have to somehow assure yourself that no-  
11 body--a neighbor in your instance--say the SW/4 of a particular  
12 section was going to attack either an involuntary or voluntary  
13 pooling agreement for that N/2 and how you would assure your-  
14 self of that, I don't really know, because leases change hands,  
15 and maybe this attack could take place next year, or 5 years, or  
16 10 years from now.  
17

18 MR. KELLOGG: Would it, in your opinion, have an adverse af-  
19 fect on the development of oil under such uncertainty as these?  
20

21 MR. ROBERTS: It certainly would. It would also have the affect  
22 that I don't know when landowners would ever obtain any royalty--  
23 how long you'd have to hold them up before you're sure this wasn't  
24 going to happen.

25 MR. KELLOGG: Would you be able to present an early title op-  
26 inion that would have any validity as to who the royalty was pay-  
27 able?

1 MR. ROBERTS: I think you'd have some very serious questions  
2 as to whether you could or not.

3 MR. KELLOGG: That's all. I think you testified that the permit  
4 that establishes...that establishes a spacing unit is something  
5 that you rely upon when going ahead with drilling.  
6

7 MR. ROBERTS: Industries relied upon in North Dakota for many  
8 years.

9 MR. KELLOGG: Because it affects your risk, doesn't it?

10 MR. ROBERTS: Yes, sir.

11 MR. KELLOGG: Now, did Cardinal rely upon the E/2 spacing unit  
12 before it proceeded with the drilling?  
13

14 MR. ROBERTS: Yes, sir.

15 MR. KELLOGG: That's all.

16 MR. VANDEWALLE: Mr. Roberts, with regard to Mr. Kellogg's  
17 questions, surely if an involuntary pooling order had been grant-  
18 ed by this Commission on the E/2 and no appeal was taken with-  
19 in 30 days, subsequently, someone could not come in and ask them  
20 to change the spacing.  
21

22 MR. ROBERTS: That's true, but we are once again being hypo-  
23 thetical. If we didn't have involuntary pooling, if we had volun-  
24 tary pooling on a rectangular spacing, it seems under North Am-  
25 erican's theory where this Commission never heard the matter.  
26 The lessors and lessees got together and said we'll run it North  
27 and South; somebody perpendicular to that spacing hearing may be

1 next month or 5 years from now could say, I think that it should  
2 be involuntarily pooled or run the opposite direction. I think un-  
3 der what North American's contending, there wouldn't be anything  
4 to prevent that.  
5

6 MR. VANDEWALLE: But, this Commission has enough problems  
7 without deciding hypothetical, don't you think?

8 MR. ROBERTS: I think it could become a very real problem in  
9 development of oil operations within the state.

10 MR. VANDEWALLE: With regard to the permits and that's been  
11 discussed by both parties today, I know of no reference except  
12 the passing reference to the order spacing this area itself, and  
13 isn't it true that the State Geologist cannot issue any drilling per-  
14 mits that's not in accordance with the spacing order?  
15

16 MR. ROBERTS: That's true.

17 GOVERNOR GUY: Mr. Roberts, you stated that North American  
18 Royalties were contacted to join with Cardinal in drilling the well  
19 in the SW of the SW/4 of Section 15, that the E/2 of that Section  
20 as the spacing unit, and that North American Royalties declined  
21 to join. Did North American at any time, offer to drill the well  
22 with Cardinal's financial support, providing the spacing unit was  
23 on the S/2 of 15?  
24

25 MR. ROBERTS: The answers to our inquiries are into evidence  
26 they have never made a specific proposal to drill a well in that  
27 Section 15.



1 GOVERNOR GUY: Have they ever made a proposal to join Card-  
2 inal in the well that Cardinal did drill provided the S/2 of 15 was  
3 the spacing unit?

4 MR. ROBERTS: No, sir.

5 MR. THAMES: I..I believe Exhibit 9 that Cardinal has introduc-  
6 ed would throw some light on this particular question.

7 MR. ROBERTS: They simply state that the spacing unit should  
8 be the S/2; as far as whether or not they were ready--they were  
9 ready at any time to drill a well, I don't think they said.

10 GOVERNOR GUY: So you maintain that North American has never  
11 offered to join with Cardinal in a well with the S/2 of the Section  
12 being the spacing, nor have they ever offered to be the..to act-  
13 ually drill the well with Cardinal's joining in, is that right?

14 MR. ROBERTS: That's right.

15 MR. THAMES: I couldn't hear your answer to that.

16 MR. ROBERTS: That's right.

17 MR. BAUER: Governor, this is a question of my integrity, but  
18 right now, I testified under oath that we would pay our part...

19 GOVERNOR GUY: Ah..this is what I want to..and I would ask  
20 you the same question...any offers--the original offer from Car-  
21 dinal was not a written offer, it was a telephone offer, is that  
22 correct? Ah..do you have any written offers from North Ameri-  
23 can to the offer that Cardinal made by telephone?

24 MR. BAUER: I have several letters. I may have some more,

1 but I've been introducing into evidence...but I'd have to look, in-  
2 dicating that we were willing to share in the drilling of this well.

3 MR. PALMER: I think you better think back, Art.

4 MR. BAUER: Hugh, I think that you could..

5 MR. PALMER: You doesn't say that.

6 MR. BAUER: You know what our conversation was.

7 MR. PALMER: I know what it was, you said it was a problem of  
8 us getting drained was our problem, not yours. But you had this  
9 Wolfe well...

10 GOVERNOR GUY: Ah..what I'm trying to determine here is  
11 whether or not the offers were made by telephone and that there  
12 is no record, except the testimony of the parties involved or  
13 whether there was a written offer or a written counter-offer by  
14 the parties involved,

15 MR. BAUER: May I just take a moment to go through this, gentle-  
16 men?

17 MR. PALMER: Excuse me a moment, Governor. Our...our  
18 proposal wasn't only a telephone conversation, but was followed  
19 up by a written request. We have evidence that we were trying  
20 to drill the well. If he would have proposed, we might have join-  
21 ed them. But he didn't ever agree to put up any money any time.  
22 For running the spacing East/West or North/South at no time.

23 GOVERNOR GUY: Is there..are there other...is there other  
24 testimony that you wish from Mr. Roberts?  
25

1 MR. DAVIDSON: If it please the Commission, I offer into evi-  
2 dence, Exhibits 1 through 16 and Exhibit 27.

3 DR. NOBLE: Are there objections to the Commission's receiv-  
4 ing Exhibits 1 through 16 and Exhibit 27? If not, they will be re-  
5 ceived.

6  
7 GOVERNOR GUY: Are there other witnesses now that should be  
8 called? Ah., Mr. Bauer is looking up this information.

9 MR. DAVIDSON: Well, we have a witness that we could call.

10 GOVERNOR GUY: Well, we're not trying to fill up the time, we  
11 just want to move it along a little faster.

12 MR. DAVIDSON: Yes, well he...

13  
14 GOVERNOR GUY: All right.

15 MR. DAVIDSON: I think we'll call Mr. Rummel. Frank Rummel.  
16 Oh, excuse me. State your name and address.

17 MR. VOORHEES: T. A. Voorhees, Billings, Montana.

18 MR. DAVIDSON: And by whom are you employed?

19 MR. VOORHEES: Cardinal Petroleum Company.

20 MR. DAVIDSON: And in what capacity?

21 MR. VOORHEES: Vice-President in charge of operations.

22  
23 MR. DAVIDSON: What is your formal education?

24 MR. VOORHEES: I graduated from New Mexico, student in Min-  
25 ing and Technology with a Bachelor of Science Degree in Petrol-  
26 eum Engineering.

27 MR. DAVIDSON: And have you been employed in this profession

1 since the date of your graduation?

2 MR. VOORHEES: Yes, for the past 16 years I have.

3 MR. DAVIDSON: I ask for the Commission to recognize Mr.  
4 Voorhees as an expert witness.

5 GOVERNOR GUY: The Commission does recognize Mr. Voorhees  
6 as an expert witness.

7  
8 MR. VOORHEES: I believe you all have a copy of Exhibit #17,  
9 which is the crux of my testimony. This exhibit and the purpose  
10 of my testimony is to present the cost incident to the drilling,  
11 completion, and operation of the 15-15 Shank well. In addition  
12 to this cost summary, which is Exhibit #17, I do have two sets  
13 for the Commission, which are copies of the actual invoices of  
14 all invoices received through August 20, 1970. Now these in-  
15 voices are summarized on Exhibit 17 because the invoices them-  
16 selves are quite a lot of paperwork. As the exhibit states, this  
17 is as of August 20, 1970, and we have reviewed all of our opera-  
18 tions, and I think all of the invoices are in and contained herein  
19 with the exception of the electric pumping motor on the pumping  
20 unit. We were unable to get the motor we desired at this time,  
21 so it really has not been delivered. We're just using a motor  
22 that's on loan, so there will be one additional charge here, and  
23 we estimate that charge will be approximately \$1800.00 dollars.  
24 Now, would you like me to put down all of these charges, or just  
25 the totals?  
26  
27

1 GOVERNOR GUY: Ah..please summarize it in words, we have  
2 the exhibit in exhibition.

3 MR. VOORHEES: All right. The principle charge in the drilling  
4 cost is the footage drilling, which was done by one of our own  
5 rigs, and we have employed a footage rate of \$4.75 per foot,  
6 which we consider to be a competitive rate in the area. The re-  
7 maining of the drilling charges are ah..surveying, permit, the  
8 dirt work, drilling mud, water, casing, cement..all of which is  
9 summerized and the total drilling cost to the casing point on this  
10 well amounted to \$63, 840.03. The completion cost are then sum-  
11 marized, which includes all the various items of equipment and  
12 services required to complete the well through the tanks. About  
13 three pages of these items and they total \$108,610.15. So, the  
14 total completed well cost--drilling and completing--amounted to  
15 \$172,450.18, and as I mentioned, there will be the one extra  
16 charge of approximately \$1800.00, which we have not entered.  
17 The last page of this exhibit summarizes the operating expenses  
18 of the well to date. This is early July, so we just have one half  
19 month in June and all the items are set forth there and they am-  
20ount to \$398.41 for June's, and for the full month of July, the op-  
21erating expenses amounted to \$729.84 and these operating expen-  
22ses are governed by the accounting procedure which you were fur-  
23nished as Exhibit #16. That concludes my testimony. Are there  
24 questions?  
25  
26  
27

1 GOVERNOR GUY: Does anyone wish to question Mr. Voorhees?

2 You may be excused. Do you have another witness ready?

3 MR. DAVIDSON: We will offer Exhibit 17 and ask the Commission  
4 approval the costs as provided under the statute.

5 MR. THAMES: No objection.

6 GOVERNOR GUY: We will receive the exhibit.

7 MR. DAVIDSON: State your name and address please.

8 MR. HARRISON: Ray Harrison, Billings, Montana.

9 MR. DAVIDSON: And by whom are you employed?

10 MR. HARRISON: Cardinal Petroleum Company.

11 MR. DAVIDSON: And what capacity?

12 MR. HARRISON: Exploration Manager.

13 MR. DAVIDSON: And what is your formal education?

14 MR. HARRISON: I graduated with a BS Degree in Geology from  
15 the University of Nebraska in 1940. Since that time, the past 24  
16 years, I have been employed as a Petroleum Geologist.

17 MR. DAVIDSON: By Cardinal Petroleum?

18 MR. HARRISON: The last 13 by Cardinal, and previous to that,  
19 by Smith Petroleum Company and Monsanto Chemical Company.

20 MR. DAVIDSON: I ask the Commission to accept the testimony  
21 of Mr. Harrison as that of an expert.

22 GOVERNOR GUY: His testimony will be accepted.

23 MR. DAVIDSON: You may proceed, Mr. Harrison.

24 MR. HARRISON: I realize time is getting long, and I will make  
25

1 this just as brief as possible. The geological discussion this af-  
2 ternoon concern itself primarily with the probability of the exten-  
3 sion of the Heath B sand up to the Northeast of the Shank well,  
4 located in the SW SE of Section 15. In order to really visualize  
5 this probability, I think it is necessary that the concept of the de-  
6 position be briefly discussed, so that you can see how this..this  
7 sort of thing came about. At the end of Mississippian and early  
8 in the beginning of Pennsylvanian time, the Williston Basin water  
9 area--the Marine area of the Williston Basin lies to the North  
10 and Northwest of the area with which we're concerned. And the  
11 land mass lies to the East, the Southeast and the South, at some  
12 point which is not exactly...not exactly ah..it will be determined.  
13 However, the evidence of deposition of the Section of which we are  
14 concerned, indicates that the Permian Seas of this particular--  
15 the Pennsylvanian Seas--of this particular time was relatively  
16 shallow, and that the shoreline was oscillating back and forth ac-  
17 cross the area of deposition. This such type of oscillating sea is  
18 inducing to the buildup of off-shore bars--beach bars--backed up  
19 by lagoon, and tidal flats and swamps and that sort of thing. And  
20 it brings about a very rapid change in lithology. The one thing  
21 about this type of deposition is that many of the off-shore bars  
22 and beach bars have a tendency to follow the configuration of the  
23 basin, and the configuration of the basin, as we interpret it then  
24 is much the same as we interpret it now. We do not see a great

1 deal of change except for isolated incidents and salt flats and  
2 something of that nature. To put this idea on paper, I have pre-  
3 pared Exhibit 18. Exhibit #18, which illustrates the continuity  
4 of what is in my opinion, is off-shore bar type deposition in the  
5 B Sands of the Heath Reservoir in the West-Dickinson, Dickinson  
6 Field. This cross-section runs from the extreme Southwest end  
7 of the West-Dickinson Field, approximately through the middle  
8 of the field, and goes through the Shank well, which is #12 on the  
9 exhibit, and ends up at a dry hole, which is #13. Now you can  
10 see that on the exhibit, I have colored yellow the stratigraphic  
11 unit that has been referred to as the B sand which we are con-  
12 cerned with, and this general concept I'm sure is very similar  
13 to the one Mr. Zajic has mapped an isopach on his exhibits.  
14 This does illustrate the continuity of this particular bar deposit  
15 coming across through wells #1, 2, 3, 4, 5, 6, 7, and 8 and that time  
16 there was some slight readjustment in basic configuration to  
17 where the bar kept building up in the section, and continuing to  
18 the Northeast in a rather continuous method of deposition. Off  
19 to the West, at the time it was building up to the East, the lagoon  
20 situation took place and you have the lagoonal black shales over-  
21 lying the B sands in that particular part of the reservoir. The  
22 orange, as indicated on here, is the A Sand with which we are  
23 not particularly concerned at the moment, because it does not ex-  
24 ist--at least at this point--in the area around Section 15. The  
25  
26  
27



1 enlargement of the nine-section area, which you see here on this  
2 exhibit, is merely this area is...outlined in black and it centers  
3 around the area of which we are concerned. This has been put  
4 on here to illustrate the continuity of the B interval--now this is  
5 not all the time sand, please understand that it...virtually every  
6 instance within the field there is a certain amount of limestone  
7 associated with the B sand section, but this merely indicates that  
8 our tendency for the bar continuation's extending from the South-  
9 west end of the field up into the Shank well, distance of 6 or 7 miles.  
10 In order to define then the reservoir, there are two things that  
11 you must take into consideration; the first of all is the extent of  
12 the effective porosity within the base sand of the pay section of  
13 the reservoir and the second thing is the structural attitude of  
14 that particular pay horizon. Particularly in the case where the  
15 reservoir is not completely full of oil and there seems to be a lit-  
16 tle water--or some water associated with it and its down dip leg.  
17 I have prepared a series of maps which you will see; the first one  
18 of which is a structural map that is drawn on the top of what I'm  
19 referring to in this hearing as the Heath limestone. Now this is  
20 essentially the same volume that Mr. Zajic used in preparing his  
21 structural map. The...the isopach map that you will see, is an  
22 isopach of the effective porosity within the interval. And then you  
23 will see a structure map that was drawn on the top of the B Sand  
24 porosity. Now, the similarity of this map to the exhibit of Mr.

1 Zajic's is quite pronounced, it is just the one big difference--the  
2 major difference involves the area in Section 15. You will note  
3 in my cross-examination of Mr. Zajic, I pointed out the start of  
4 a structural nose in Section 26, which he indicates on his map;  
5 this is in association in continuation of the relatively minor anti-  
6 clinal flexures that both of us have mapped to the Southwest,  
7 right through here, and here, and here, and here. I have contin-  
8 ued this structural nose up to the Northwest and through Section  
9 15. I think it's a very, very valid interpretation because it's  
10 just simply a continuation of what you can see here, and you def-  
11 initely have the start of it right down in the producing well sec-  
12 tion and there is no reason in my mind to cut it off and not con-  
13 tinue it on up to the Northwest. By so doing, of course, you  
14 place the sediments in Section 15 in a higher structural position  
15 than you do on Mr. Zajic's map, and that is the way that I believe  
16 it is. That we have a very pronounced low coming down on the  
17 South side of the Freed well, in the SW SE of Section 16, and that  
18 low continues down from the SW SE--SW NW--of Section 27, which  
19 well is actually four feet lower than a regionally down dip well in  
20 the SW NW of Section 28. Because of this, we can assume that  
21 there is a low through this area, and logically this high that is  
22 indicated up dip will continue on through the Northwest. This  
23 structure map is drawn on the top of what we refer to as the Heath  
24 limestone. In determining the attitude of the basin, at this par-

1 particular area--our nearest control point to the North--is just about  
2 three miles due North of the Northeast corner of Township 140-  
3 96 West, that is a well--a dry hole--drilled by Miami and in that  
4 particular well, the contoured horizon here is very prominent--  
5 no problem in calling it and it figures out to be a datum of -5383.  
6 Now this would have to be drawn on 10-foot contours. Here is  
7 my 5350 line, here is the 5400, 5380 is right here. You can see  
8 that to make this eventually end up at the Miami well, the basin  
9 is turning; this is the Southeast corner of the turn, and it heads  
10 more to the North than to the East through this area. That is rel-  
11 atively what we feel it is trying to tell us that it's doing right here.  
12 And the reason for this is because, in my opinion, the sand bars  
13 are building up in relation to the shore line, and that is the way  
14 the shore line is turning, and that is the way the sand is turning.  
15 Continuing on with Exhibit 20, this is an isopach of the net effec-  
16 tive B Sand porosity, whether it contains oil or water, it's a to-  
17 tal package of the B Sand porosity in this area. Now my figures  
18 for this--for the thickness of this porosity--in the S/2 of Sections  
19 19, 20, 21, and in Section 28 and on to the SW were taken from  
20 data prepared by the Dickinson, West-Dickinson unit Engineering  
21 Sub-Committee. At their earlier meetings, when there were a  
22 good many companies that attended, I imagine 6 or 8 companies were  
23 represented, and they arrived at these perimeters for determin-  
24 ing the net effective pay for the portion of the field that at any time  
25

1 was developed. To the Northeast, in the area other than what I  
2 have previously described, Mr. Walker--drilling geologist with  
3 Cardinal--has indicated to me what he believes to be the net ef-  
4 fective porosity of the well and we see that there are slight var-  
5 iations from the map prepared by Mr. Zajic. In other words,  
6 we have what Mr. Walker believes that may be net effective pay  
7 in the Shank well, we have 9 feet of pay in the Continental Jilck  
8 well in the SW NW of 23, I believe he showed 10, we've got 11 in  
9 the Wolfe well, which he shows  $8\frac{1}{2}$ , in the Head Wock State in  
10 which he shows the same and I believe that I cut the Freed well  
11 down to 1 foot instead of 2 as shown on his map. The other differ-  
12 ence from this and Mr. Zajic's map is the fact that has included  
13 2 dry holes--3 dry holes--on the East side of the field with net  
14 effective pay. Now, Mr. Walker does not believe that that pay  
15 is effective or at least, he cannot find it in the section, because  
16 the..the dry hole, which he gave 2 feet of pay on the SW SE of  
17 Section 22 was never actually tested--it was plugged as a dry  
18 hole. The well in the SW SE of Section 23, in that particular in-  
19 stance, they tested the lower sand--the C Sand--got 3300 feet of  
20 water and to my knowledge, there were no oil in the water and  
21 the B Sand interval was tested in the same test. The dry hole in  
22 the SW NW of Section 25 recovered only 180 feet of oil cut mud on  
23 drill stem test of the B Zone. Now, you might ask why did we  
24 include the 2 wells in Section...the 2 dry holes in Section 16 as  
25  
26  
27

1 having some effective pay. Actually, a small amount of free oil  
2 was recovered in the well in the SW SE of 16--600 ccs of oil--in  
3 the bottom hole sample, so it does have some indication of oil in  
4 the bore hole. The dry hole in the SW NW of 16 recovered, as I  
5 recall, recovered 90 feet of free oil, and 2 or 300 feet of oil cut  
6 mud and oil cut water. So, there is some indication of pay in that  
7 well, other than that, the interpretation of--the basic isopach in-  
8 terpretations--are relatively the same, except for the little thick-  
9 er section I have mapped in the well in the SW SE of 19, which  
10 Mr. Zajic has changed and I understand the Engineering Commit-  
11 tee at their last meeting, has changed some of these values, but  
12 we have not had a chance to really review them, so I'm using ac-  
13 cepted values that were previously accepted. Now what does this  
14 show? This shows in red, the thickness of the net effective por-  
15 osity of five feet around the edges of the sand bar. From 5 to 10  
16 feet of the effective porosity is shown in green; from 10 to 15 in  
17 orange, and then the thickest well in the field has 19 feet to the  
18 15 to 20 feet of thickness in yellow. You see what this is doing,  
19 shows that the net effective porosity within the Heath B Sand start-  
20 ing over here in Section 33 of 140-97, is dealing on up, is follow-  
21 ing generally the structural figuration as shown on our structure,  
22 and that's where the basin bends, the sand is bending, the bar is  
23 bending, and that there's no reason to believe otherwise that this  
24 will not continue, ah...to follow this same trend of deposition.  
25  
26  
27

1 I might point out here there's a big difference in our interpreta-  
2 tion of the amount of pay in Section 15. As you recall, Mr. Zajic  
3 cuts off the porosity just a little North of the center of Section  
4 15. I see no reason whatsoever to terminate that porosity at that  
5 point. There are no wells up here for a distance of  $5\frac{1}{2}$  to 6 miles  
6 to show us that that happens. Therefore, the field continues from  
7 the SW to the NW, it continues to develop. We're sitting on a  
8 400-barrel a day well in the SW SE of 15, it doesn't seem logical  
9 that the field will end within a half mile of what it has gone through  
10 this distance. Now, you say is...has ended at the South end--  
11 over here. I'm not sure that it has ended there exactly, but I...  
12 I would say that it is very close to the end. We do not have all  
13 the data on the Shell well in the SE NW of 32, but it is my under-  
14 standing that that well has been abandoned in so far as being able  
15 to produce any more. You have a dry hole with a...one foot of  
16 pay in it--it was not tested, actually, in the SE NW of Section 3,  
17 it was abandoned as a dry hole. And here you have a well in the  
18 SE SE of Section 33 that has produced I believe around 45,000  
19 barrels of oil in  $29\frac{1}{2}$  months. Certainly nothing like we anticipate  
20 from this end of the field. Now this may string along to the SW  
21 a little bit, I don't know about that, it's no great concern, it's  
22 just that I did want to point out that the reason for terminating  
23 here would be more logical than terminating at the Northeast.  
24 So we have, in my interpretation, the B Sand extending just as it

1 has extended up to the Northeast. We have a structural config-  
2 uration that when you map the structure of the B Sand porosity,  
3 and I have a feeling that these things that I'm using, Mr. Zajic  
4 used and they will be within 1 or 2 feet I'm sure. Now, this is  
5 a structure map that is drawn on top of the B Sand porosity, and  
6 I believe that the oil-water contact in this field is pretty reliably  
7 established and somewhere around -5400. I believe that the En-  
8 gineering Sub-Committee... a 5404, but I have just used a 5400 as  
9 my oil-water contact, and I have placed the well in the SW NW of  
10 16 right at the oil-water contact because it did make oil and it  
11 did make some water. This then would be the oil-water contact--  
12 the 5400 contour line, which runs like so--down through here,  
13 and it is substantiated by production tests and by drill stem tests  
14 in this area of the field, so it seems to be reliable figures. So  
15 what does this do then? We have a structure starting down here  
16 in here in Section 26 of 140-96, showing a tendency to parallel  
17 the other structures that we... Mr. Zajic and I both have. We  
18 have a sand that shows every indication that continuing up along  
19 here following the old shoreline and bending to the North and com-  
20 ing right through Section 15. So, actually, to determine the per-  
21 imity--perimeters of this field--you overlay your sand isopach  
22 upon the structure map of the B Sand porosity and you come up  
23 with my interpretation of the definition of the Dickinson, West-  
24 Dickinson Field area. And that is my interpretation, the geolog-

1 ical portrayal of the reservoir, and you will note that it is open-  
2 ended to the North, because I can find no particular reason to  
3 shut it off. I do not believe that this sand bar that has continued  
4 for as long as it has, is going to terminate just beyond the well  
5 that's capable of making 400 barrels a day. So this gentlemen,  
6 then, represents my interpretation of the West-Dickinson, Dick-  
7 inson area. The following exhibit, #23 is a well data map on  
8 which we show the date the well was completed, the interval  
9 cored--if it was cored--the drill stem test taken, the recovery,  
10 the pressures, perforated interval, accumulative production to  
11 the end of June of 1970, the June rate of production, and the cur-  
12 rent rate. The.. the location that we have in the SW NW of Sec-  
13 tion 15 and also in the SW NW of Section 14, I recommend to Mr.  
14 Palmer that we drill because I believe that that both of those lo-  
15 cations will be productive. Now, I'd say at this time that both  
16 these maps that you have seen on the exhibit board were prepared  
17 as exhibits from existing work maps that we keep up in our office  
18 and this has been our interpretation of this area for some time,  
19 that it was not going to stop, that it was going to continue. To  
20 illustrate the relative precedent about this exhibit, Exhibit #24  
21 is a map that was prepared by the Dickinson, West-Dickinson  
22 Engineering Sub-Committee in January of 1968. You will see how  
23 they have drawn the isopach of the B Sand unit at that time. And  
24 even before they got the map printed, there was a well comple-



1 tion in the SE SE of Section 33. And at the time, there was a lo-  
2 cation in the SW NW--the SW SE of Section 21. To illustrate  
3 what has happened, they put out another map in May of 1968--an  
4 isopach of the B Sand, and they had naturally, to include the new  
5 wells..wells which were on both ends of the trend. That has been  
6 continually happening since May of 1968 and it's my firm convic-  
7 tion that it will continue to happen in the future in the NE of Sec-  
8 tion 15.

9  
10 MR. DAVIDSON: We will then offer into evidence Exhibits 17,  
11 18...excuse me, 18 through 25.

12  
13 DR. NOBLE: Are there objections to Exhibits 18 through 25?

14  
15 MR. THAMES: No objections.

16  
17 DR. NOBLE: The hearing then, will receive them.

18  
19 MR. VANDEWALLE: Mr. Davidson, is there an Exhibit 26 then  
20 or do we...did you mark one of the exhibits 25?

21  
22 MR. DAVIDSON: I'm sorry..I didn't...

23  
24 MR. VANDEWALLE: Oh, there is..okay, just so we know...  
25 there's no Exhibit 26.

26  
27 MR. DAVIDSON: You may cross-examine.

28  
29 MR. THAMES: Mr. Harrison, on your Exhibit 18 in the enlarged  
30 area on the right hand side of that exhibit, as you show the area  
31 that we are in question about today, you have used a..representa-  
32 tion--that is the gross B interval.

33  
34 MR. HARRISON: Yes, that's right.

1 MR. THAMES: And have you shown an...a representation of  
2 the net sand interval on any of your exhibits?

3 MR. HARRISON: Just on the isopach.

4 MR. THAMES: Do you recall the cross-sections that were pre-  
5 sented--prepared--by Mr. Zajic, and in recalling your knowledge  
6 of this area of the field, do you note that the sand appears to  
7 shale out both to the NW and to the SE, on the basis of the con-  
8 trol that we have now?

9 MR. HARRISON: To the NW.

10 MR. THAMES: Yes, crossing this linear trend.

11 MR. HARRISON: The sand gets fairly tight in these wells down  
12 in here. In fact, it's so tight, that it's incapable of, in my opin-  
13 ion, being a reservoir rock.

14 MR. THAMES: And what does it do to the NW of the trend that  
15 you have drawn?

16 MR. HARRISON: Up here?

17 MR. THAMES: Yes.

18 MR. HARRISON: In these two wells?

19 MR. THAMES: Yes.

20 MR. HARRISON: In the Freed well, in the SW SE of Section 16,  
21 the sand is--a developed sand--it lacks permeability. I don't re-  
22 call right offhand whether it's a...a...siliceous sand or a shaley  
23 influence it was. It was a relatively tight well, in the sand sec-  
24 tion.  
25  
26  
27

1 MR. THAMES: So then, the sand has a tightness on both sides  
2 of this trend, is that correct? Is that what you said?

3 MR. HARRISON: Yes.

4 MR. THAMES: The effective reservoir characteristics disappear  
5 both to the NW side of the trend and the SE side of the trend?  
6

7 MR. HARRISON: Yes, there is..there is some tight present in  
8 the SW NW of Section 16, but it is..my interpretation is that it  
9 will disappear.

10 MR. THAMES: Now, on your Exhibit 19, you have drawn a large  
11 nose which...the axis of which passes through Section 15 and up  
12 through Section 9. What control do you have for that nose in the  
13 Section 9 area and the Section 8 area? Do you have seismic in-  
14 formation or something besides just sub-surface wells that we  
15 all have?  
16

17 MR. HARRISON: No sir, I'm just basing it on the..another leg  
18 following the anticlinal flexure that is to the South.

19 MR. THAMES: Well, you show this as a very regular type of sym-  
20 metrical type of leg to these structures and it seems to be consid-  
21 erably different in configuration from the other parts of the field.  
22 Is there some reason why this should at this point, be symmetri-  
23 cal, where the rest of the field doesn't show this symmetry in the  
24 poles?  
25

26 MR. HARRISON: It's symmetrical for the reason that I have no  
27 reason to make it unsymmetrical.

1 MR. THAMES: Except the configuration in other areas in the  
2 field.

3 MR. HARRISON: Well, this ah.. as you continue, this nose out  
4 it's even fairly symmetrical with your sub-surface control, the  
5 one to the South of it. Now, this is our two points, that virtually  
6 as symmetrical as you can get it, right there.

7 MR. THAMES: Including the one that you drew parallel to that.  
8 to the NW?

9 MR. HARRISON: It's very similar.

10 MR. THAMES: But, to the SW of these two symmetrical folds,  
11 the folding is not symmetrical, is it?

12 MR. HARRISON: No, it.. it's fairly symmetrical where it begins  
13 here and here, and then of course, in here, it loses its symmetry.

14 MR. THAMES: Things change. On your exhibit--

15 MR. HARRISON: Before we get off to that, I want to mention one  
16 thing here, if I may. Now, you're asking me about this nose that  
17 I have here and another reason why it's there, which I've failed  
18 to point out and I would like you to note this particular low hole  
19 down here in Section 31 of 140-95, that is an extremely low hole,  
20 and I think the main problem is the low trend is on the North side  
21 of the anticlinal features that we're talking about.

22 MR. THAMES: The way you've contoured.

23 MR. HARRISON: The way I've contoured.

24 MR. THAMES: Now, as to Exhibit 20, you have shown and ex-

1 plained the open-end characteristic, to the Northeast, which is  
2 the basis of your interpretation of the field, and all through the  
3 remainder of the field, that you show the thickness axis of this  
4 sand isopach of its effective thickness--is most erratic, as I  
5 read this presentation. The thickness axis changes orientation  
6 radically, varies considerable from place to place, it curves,  
7 not at all in relationship to the--and yet, at this point of no con-  
8 trol, it suddenly is depicted as a smooth curve showing no vari-  
9 ations of any kind. Is this presentation consistent with the in-  
10 formation which you have shown on the remainder of the field?

11 MR. HARRISON: Well, I think that any..any contoured map that  
12 is drawn where you have--where you actually run out of well con-  
13 trolled, you follow the trend. You could wiggle these things if  
14 you wanted to, but it would serve no particular purpose.

15 MR. THAMES: It doesn't mean anything, does it?

16 MR. HARRISON: What we're trying to do is just establish this  
17 trend, and you say that it takes irregularities, but the overall  
18 trend of this thing, it comes through here, and then of course it  
19 forms a split, comes back together, and my opinion continues.  
20 And the fact that it does narrow up and then blossom out is exact-  
21 ly the reason why you're liable to have some oil up here in the  
22 NE/4 of Section 16. It can do up here just exactly what it did  
23 down here.

24 MR. THAMES: But you don't show it doing that.

1 MR. HARRISON: Oh yes, I do. I blossom out. I blossom it out  
2 to take care of the oil that was recovered in the SW NW of Section  
3 16.

4 MR. THAMES: In your delineation of the oil area, Exhibit 22,  
5 is there any reason in the well control which exists to show that  
6 Section 11, as you depicted, would be both within the trend of the  
7 sand and above the water table?  
8

9 MR. HARRISON: Yes, I believe that it would be above the water  
10 table because this is my water table line. And following the trend  
11 that has been established up through there, I don't know where  
12 it quits. I would say..I mean, like I've said before, after going  
13 this far, why should it quit?  
14

15 MR. THAMES: No further questions.

16 DR. NOBLE: Does anyone else have questions of Mr. Harrison?

17 MR. VANDEWALLE: Mr. Harrison, there's obviously been  
18 some move toward unitization in this area, since you've men-  
19 tioned the unit committee work, is that right?

20 MR. HARRISON: Ah..yes, I would--I have not been a member  
21 of that committee, and if you have questions concerning that, I  
22 would prefer that you ask either Mr. Voorhees or Mr. Walker.  
23

24 MR. VANDEWALLE: I'm just curious as to whether or not the  
25 proposed development that you say is possible in the NE would  
26 delay unitization until such time as that area is---

27 MR. HARRISON: I wouldn't be a bit surprised but what it would

1 You have to define the field before you can put it into unitization.

2 This field is not defined, in my estimation.

3 DR. NOBLE: Are there further questions of Mr. Harrison? You-  
4 're excused. Do you have other witnesses?

5 MR. DAVIDSON: Cardinal Petroleum rests.

6 DR. NOBLE: Does anyone else wish to be heard on this case?

7 Mr. Thames, you wished to make a statement. In the testimony  
8 you are about to give, do you promise to tell the truth, the whole  
9 truth, and nothing but the truth?

10 MR. RUMMEL: I do.

11 MR. KELLOGG: What is your name?

12 MR. RUMMEL: My name is Mike Rummel.

13 MR. KELLOGG: Where do you live?

14 MR. RUMMEL: Richardton, North Dakota.

15 MR. KELLOGG: Do you have some minerals under the E/2 of  
16 Section 14 involved in this hearing--15 rather?

17 MR. RUMMEL: Yes.

18 MR. KELLOGG: About how many acres do you have?

19 MR. RUMMEL: Included together, I have 10 acres.

20 MR. KELLOGG: Part of it's under part of 14 also?

21 MR. RUMMEL: Yes.

22 MR. KELLOGG: But a little more than half is under 15?

23 MR. RUMMEL: Correct.

24 MR. KELLOGG: All right, and have you leased your minerals to

1 North American Royalties?

2 MR. RUMMEL: Actually they're leased to Ray Moore, but he  
3 said he'd represent North American Royalties.

4 MR. KELLOGG: Yes, and that was about a year or two ago?

5 MR. RUMMEL: No, about a year.

6 MR. KELLOGG: Yes, at that time, were you informed by a per-  
7 son who took the lease that an application would be made to space  
8 this so that you would receive less than an eighth of the oil pro-  
9 duced on your land?  
10

11 MR. RUMMEL: I don't know that for sure.

12 MR. KELLOGG: Well, what was the royalty that you were to re-  
13 ceive under your lease? What portion?  
14

15 MR. RUMMEL: It's..it's actually I have a 3/16.

16 MR. KELLOGG: You have a 3/16 lease?

17 MR. RUMMEL: Yes.

18 MR. KELLOGG: Is that right?

19 MR. RUMMEL: Yes.

20 MR. KELLOGG: And ah..were you told at the time that North  
21 American would make a request for spacing that would cut your  
22 production in two?  
23

24 MR. RUMMEL: No, they did not.

25 MR. KELLOGG: Do you understand that if their application is  
26 granted, it would cut your production in two on your acreage?

27 MR. RUMMEL: Yes, I understand that.



1 MR. KELLOGG: And were you told that when the lease was taken?

2 MR. RUMMEL: No.

3 MR. KELLOGG: And when was that lease taken?

4 MR. RUMMEL: I would say a little better than a year ago, I guess.

5 MR. KELLOGG: Had you known that such an application would  
6  
7 be made, would you have signed the lease?

8 MR. RUMMEL: No, I would not have.

9 MR. KELLOGG: Thank you.

10 DR. NOBLE: Are there any questions of the witness?

11 MR. THAMES: No questions.

12 DR. NOBLE: You may be excused Mr. Rummel.

13 MR. VANDEWALLE: I have a question I'd like to ask Mr. Bauer.

14 MR. THAMES: I'd like to put him back on the stand to answer  
15  
16 several issues which have been raised. If this is the proper time.

17 MR. VANDEWALLE: Well, may I go ahead and just ask this one  
18 question. Ah..on the well in the NW/4 of Section 10, ah..in ah..  
19 what is it--22, I guess--which way does the spacing unit run, be-  
20 cause...

21 MR. BAUER: It runs East and West.

22 MR. VANDEWALLE: It runs East and West.

23 MR. BAUER: Most of the units up there do, Gerry, they're out-  
24 lined on Exhibit 6 and 7.

25 MR. VANDEWALLE: Was that done by voluntary pooling?

26 MR. BAUER: Yes.

1 MR. VANDEWALLE: It was.

2 MR. BAUER: One land owner.

3 MR. VANDEWALLE: Thank you, that's all I wanted to ask.

4 MR. THAMES: Mr. Bauer, the Governor questioned about the  
5 situation of joinder or non-joinder, depending on spacing which  
6 transpires back in the 17th of March of this year, would you clar-  
7 ify this by---so this can be straightened out?

8 MR. BAUER: I'm sorry, but I cannot hear you.

9 MR. THAMES: Mr. Bauer, would you clarify the negotiations  
10 in answer to the Governor's request which took place on or around  
11 March of this year, concerning the drilling and the orientation  
12 of the spacing unit?  
13

14 MR. BAUER: Well, I think it starts--it goes back to the conver-  
15 sation that Hugh and I had, and this was on March the 6th, accord-  
16 ing to Hugh. And I think we've..generally, there's no--there's  
17 no question that we disagreed on which way the well should be  
18 spaced. Now there's the question as to whether North American  
19 is willing to join in drilling the well should it be spaced in the  
20 S/2. That's..seems to be the question, and it doesn't seem that  
21 anyone from Cardinal right now Mr. Roberts, or Mr. Palmer,  
22 can recall any conversation about such things, and in looking over  
23 my file and trying desperately some affirmative written state-  
24 ment, the only thing I can find are the two letters that I wrote to  
25 Donald Roberts, stating that we were--and they have been intro-  
26  
27

1 duced as evidence--that we were agreeable to a joinder. That's  
2 my interpretation of these letters, providing the spacing would  
3 be the S/2 of Section 15, which is what we said before the well,  
4 or during the well, and is what we say right now--we'll pay our  
5 money. Now, I have, and it can be introduced as evidence, it  
6 can be taken for what it's worth, my 1971 Fiscal Year Budget  
7 file and my Dickinson Development well files for the rest of the  
8 year, 1970. In..on March the 10th, 1970, we had an exploration  
9 meeting in Chatanooga, Tennessee, which is our home office,  
10 and I--as the Manager of the Rocky Mountains--went to this meet-  
11 ing and it was my job to present the financial figures on the con-  
12 templated wells that we were going to join in in the...our year  
13 ends May the 1st, 1971--our fiscal year--for that fiscal year this  
14 March the 10th, approximately four days after Hugh talked to me.  
15 I have my notes that I used at the time I delivered the figures to  
16 the exploration meeting and those notes, if anybody wants to look  
17 at them, set forth the Dickinson Field Development Plan, the S/2  
18 of 15, S/2 of 14, the S/2 of 22, and the N/2 of 14--it goes on in-  
19 to many figures. I set forth to upper management of our company  
20 exactly what of the forecast cost would plan to be in Dickinson  
21 Development. On March the 20th, this is what I have in writing,  
22 under our company policy we must send in an international auth-  
23 orization for expenditures. I have here, typed, a copy of our  
24 authorization for expenditures covering the drilling of a well in  
25  
26  
27

1 the S/2 of Section 15, which set forth, my recommendation which  
2 I talked about orally at the exploration meeting some 10 days be-  
3 fore, but this is the written confirmation setting forth the econ-  
4 omics and so forth of our joinder in a well in the S/2 of 15. Now,  
5 why would I be doing all of this if I hadn't talked it over with Card-  
6 inal? I'd like to know that.

7  
8 MR. THAMES: Mr. Bauer, in connection with the testimony of  
9 Mr. Rummel, under the examination of Mr. Kellogg, would you  
10 clarify the situation as to representations made or not made by  
11 North American Royalties to Mr. Rummel?

12 MR. BAUER: Mr. Ray Moore, in no way represented North Am-  
13 erican Royalties, Inc. as a broker, as an employee; he has no  
14 contact with him in regard to buying Mr. Rummel's lease. What-  
15 ever he said to Mr. Rummel was his own business. I negotiated  
16 a purchase of the lease from Mr. Moore, and paid him a handsome  
17 profit on lease. I bought it from him in his own lease, in the re-  
18 cord, in his name and we in no way had any connection with him.  
19 We made no statements and whatever Mr. Moore made, they were  
20 his own statements.

21  
22 MR. THAMES: Any other questions of Mr. Bauer?

23  
24 MR. KELLOGG: Well, not quite, did you solicit some leases  
25 yourself? That is, your own company on the E/2, except what  
26 Mr. Moore took?

27 MR. BAUER: We had..I had..right after the Head-Wock State

1 well was drilled in June of approximately 1969, and it reaffirmed  
2 our position up there, we went out to secure new leases and renew  
3 the leases on all the acreage that we could in Section 15 and part  
4 of 14. I hired--the one person I hired at that time was Chuck  
5 Skjod.  
6

7 MR. KELLOGG: He was your employee?

8 MR. BAUER: Yes, and I call--

9 MR. KELLOGG: And did you direct Mr. Skjod or any other em-  
10 ployee to tell these prospective lessors that you would make an  
11 application to space this field in such a matter that they'd get on-  
12 ly 1/16?  
13

14 MR. BAUER: No, they--

15 MR. KELLOGG: You never told them that, did you?

16 MR. BAUER: No, at that time, the well we're talking about was  
17 in the SW NW of Section 21, which was almost two miles away.

18 MR. KELLOGG: Well..what I'm talking about--

19 MR. BAUER: We weren't talking about a well over there at that  
20 time.

21 MR. KELLOGG: Yes, but I understand that you took leases on  
22 the E/2 of 15.  
23

24 MR. BAUER: Right.

25 MR. KELLOGG: And you didn't direct your employees in taking  
26 those leases to inform the lessors that you would ask for spacing  
27 that would cut their 1/8 to 1/16, did you?

1 MR. BAUER: Couldn't, it was a year ahead of the facts. There  
2 was no way that I could.

3 MR. PALMER: Excuse me, could I ask Mr. Bauer something?  
4 Mr. Bauer, when did you ah...you made your recommendation to  
5 your principals to drill the S/2 of Section 15?  
6

7 MR. BAUER: I said, at our exploration meeting in Chatanooga,  
8 on March the 10th--Dick Zajic was there...

9 MR. PALMER: Did you...did you make a...did you come back  
10 then and subsequently make a recommendation to them to do these  
11 things?

12 MR. BAUER: No, I told them at that time, that we were going to  
13 drill---  
14

15 MR. PALMER: Did you make a written recommendation to drill  
16 this well?

17 MR. BAUER: To you?

18 MR. PALMER: To them.

19 MR. BAUER: Yes, I have it here. I'm talking about--this was  
20 done internally within our company, Hugh. This was our budget  
21 meeting, March the 10th.  
22

23 MR. PALMER: You've got penciled notes of them.

24 MR. BAUER: I've got it typed out, written copies of letters and  
25 so forth, which I haven't had time to do in the last 10 minutes.

26 MR. PALMER: What was in the budget?

27 MR. BAUER: They authorized my budget.

1 MR. PALMER: When?

2 MR. BAUER: In ah..that would have been at the time, actually--  
3 they authorized the budget orally on the 11th of March.

4 MR. PALMER: Why didn't you notify us, so you could put your  
5 money up?  
6

7 MR. BAUER: Hugh, we talked to you all during that time. I  
8 stopped in Billings twice and talked to Don Roberts, Ray Harrison..

9 MR. PALMER: The only conversation that you ever had with me  
10 was when you talked with me on the telephone.

11 MR. BAUER: I talked to your other men---

12 MR. PALMER: The only conversation you made with me was on  
13 the phone.  
14

15 MR. BAUER: Right, I'll agree with you on that.

16 MR. PALMER: We ask you to join us on the well and you never  
17 came back--you never said anything--you let us drill the well.

18 MR. BAUER: That's what you say.

19 MR. PALMER: Well, isn't that right? Isn't that correct?

20 MR. BAUER: No, no.

21 MR. PALMER: What is correct?

22 MR. BAUER: Can I..ah..put Dick Zajic on the stand and ask  
23 him if you want to verify it?  
24

25 MR. PALMER: Who did Dick talk to?

26 MR. BAUER: He talked to me, he was in on all the conversations.

27 MR. PALMER: No. No. Who did he talk with at Cardinal that

1 had any authority to join you in drilling that well--you know who's  
2 got the authority in Cardinal? The members of the company.  
3 We've got a hundred and some thousand dollars invested and I  
4 know that you testified that you asked Rock Island to tie up the  
5 royalties runs. But that wasn't what you asked him. You said  
6 all runs.  
7

8 MR. BAUER: All runs.

9 MR. PALMER: Then why do you keep testifying royalty runs.  
10 There's a difference between royalty runs and all the runs. All  
11 the runs means 120 some thousand bucks.

12 MR. BAUER: That's right.

13  
14 MR. DAVIDSON: Mr. Bauer, you testified that regardless of  
15 whether the unit ran East and West or North and South, the inter-  
16 ests of...the difference of interests of North American would be  
17 minimal.

18 MR. BAUER: Approximately 1% on the revenue interest.

19 MR. DAVIDSON: But isn't it a fact, Mr. Bauer, that if your ap-  
20 plication is granted and the S/2 is designated as the spacing unit,  
21 you will hold leases--North American will hold leases--in the SW  
22 quarter by reason of the production.

23  
24 MR. BAUER: Yes.

25 MR. DAVIDSON: And that is a tremendous benefit to North Amer-  
26 ican.

27 MR. BAUER: But it should be, because that is where the reserves



1 are, sir.

2 MR. DAVIDSON: I'm merely asking you if it is a benefit to North  
3 American?

4 MR. BAUER: Yes, exactly.

5 MR. KELLOGG: On that same point, you have just testified that  
6 there would be less than 1% difference whether the spacing would  
7 be to the West or North or South.

8 MR. BAUER: As far as North American is concerned.

9 MR. KELLOGG: Yes, and ah..so you didn't make this applica-  
10 tion with any idea of particular profit to yourself?

11 MR. BAUER: That's right.

12 MR. KELLOGG: But, out of concern for your other lessors?

13 MR. BAUER: Lessors and other equitable owners in the area.

14 MR. KELLOGG: All right, who initiated these proceedings--  
15 did these other lessors for whom you are concerned, initiate these  
16 proceedings?

17 MR. BAUER: North American Royalties.

18 MR. KELLOGG: It was your idea.

19 MR. BAUER: After consultation, after discussion on the phone,  
20 after letters and much...

21 MR. KELLOGG: But, none of these lessors ever came to you  
22 to have you initiate these proceedings?

23 MR. BAUER: No, it's my responsibility under an oil and gas  
24 lease is to live up to the contract.

1 MR. DAVIDSON: Cardinal has the same responsibility under  
2 their oil and gas leases to protect their lessors.

3 MR. BAUER: I agree.

4 MR. DAVIDSON: And if the E/2 is granted--the spacing unit--  
5 Cardinal would be giving good support to their lessors.  
6

7 MR. BAUER: Cardinal is doing the best job that they can, and  
8 North American is and we're leaving it to the fair decision of  
9 somebody else.

10 MR. DAVIDSON: I have no more questions.

11 DR. NOBLE: Does anyone else wish to question the witness?

12 You may be excused, Mr. Bauer, unless you have something  
13 further, Mr. Thames?  
14

15 MR. THAMES: No.

16 DR. NOBLE: Are there other witnesses that wish to be heard in  
17 either of these cases 1004 and 1005?

18 BALCH: My name is Durvand Balch, and I live in Minnesota and  
19 I'm a former resident of Dickinson. I grew up in Dickinson, at-  
20 tended trade school high school, State Teachers College, went to  
21 the University from Dickinson, and went back and practiced law  
22 in Dickinson. I say this so that you'll know that I'm not a Minnes-  
23 otan who's come in speculating in oil in North Dakota. And the  
24 minerals that I hold in the E/2 of Section 15, I've held for 19 years.  
25 During the last several years, I have a lease--they were under  
26 lease to North American Royalties. The reason that the lease  
27

1 was changed to Cardinal was because we wanted as much assur-  
2 ance as we could that oil would be--that there would be a well  
3 put down on our property. I'd like to say that I have no minerals  
4 at all in the W/2 of Section 15. Consequently, our royalties would  
5 be cut in half if the spacing were changed to the S/2 of the Section  
6 and I would object strenuously if this were done. I would like to  
7 say also that the minerals that I hold at this point are all the min-  
8 erals that I hold anywhere ah.. in North Dakota or in the World.  
9 And I'd like to conclude my remarks by saying that there's one  
10 thing that is perplexing to me as I listen to the testimony here.  
11 I wrote down, as the Petroleum Geologist for North American  
12 evaluated the reserves under the various quarters in Section 15,  
13 and as I wrote them down, if I am correct, he said there's about  
14 2,000 in the NW, about 10,000 in the NE, about 65,000 in the SW,  
15 and about 100,000 in the SE. Now, if this is correct, then in the  
16 quarter section immediately below the SW about 100,000 barrels  
17 has already been taken out in the last 6 months. But in the quar-  
18 ter section just immediately to the North, he put the total reserves  
19 of 65,000 on it. In the SE/4, where there is a well producing at  
20 the rate of 400 barrels a day at the present time, he put the re-  
21 serve of 100,000 barrels, which would mean that the well would  
22 be exhausted within less than a year. I'm not a geologist, but my  
23 mathematics won't add this up.

24 DR. NOBLE: Thank you, Mr. Balch. Does anyone else wish to  
25  
26  
27

1 make a statement?

2 MR. TARR: I'd like to make a statement...is it time to make a  
3 statement before the close of the hearing?

4 DR. NOBLE: Ah..did you...

5 MR. TARR: I don't want to be a sworn witness.

6 DR. NOBLE: All right..this last man made a statement, you  
7 may make yours.

8 MR. TARR: Okay, I'm Charles Tarr, and I represent Continen-  
9 tal Oil Company at this hearing. Continental Oil Company is both  
10 a working interest owner and a royalty owner for mineral interests  
11 in the SW/4 of Section 15, Township 140 North, Range 96 West,  
12 Stark County, North Dakota. We support the application of North  
13 American Royalties, Inc. to pool all interests in the S/2 of Section  
14 15, Township 140 North, Range 96 West, into a 320-acre commun-  
15 itized tract. Continental Oil Company strongly recommends the  
16 Commission approve the North American Royalties' application  
17 in Case 1005, based upon the engineering and geologic evidence  
18 presented by the applicant of which to me, the most convincing  
19 is the isopach map of the Heath B Sand presented by Mr. Zajic.  
20 If the Commission approves the North American Royalties' appli-  
21 cation, Continental Oil Company will of course, pay its share of  
22 the drilling, completing, equipping, and producing costs of the  
23 well now located in the SW/4 of the SE/4 of Section 15, when we  
24 receive proper invoices from whomever is to be the operator.  
25  
26  
27

1 Thank you.

2 DR. NOBLE: Mr. Tarr...

3 MR. PALMER: Just a moment, Mr. Tarr. What is the Contin-  
4 ental Oil Company's interest in the SW/4?

5 MR. TARR: 320/8ths.

6 MR. PALMER: In the SW/4 of...

7 MR. TARR: The SW/4 of Section 15.

8 MR. PALMER: You own 320 acres?

9 MR. TARR: 320/8ths.

10 MR. PALMER: Oh, you own two interests...3/8ths.

11 MR. TARR: Something of that order, yes. We own the minerals  
12 in fee, they are not leased to anybody so therefore, we..if we  
13 join in an operating agreement...if we join in as working interest  
14 owner, we would also be a mineral royalty owner...

15 DR. NOBLE: Are there other statements? Mr. Thames, would  
16 you like...would you like to make your conclusion?

17 MR. THAMES: If it please the Commission, the hour is late,  
18 the question is a simple one. As far as the geologic and tech-  
19 nical evidence, presented by Mr. Zajic, based upon all the  
20 available well control that it concerns, the N/2 of Section 15  
21 will not be commercially productive of oil. It has thus been the  
22 contention that in order to protect correlative rights, the  
23 spacing unit should overlies that productive portion of the  
24 section---namely, the S/2. Cardinal as shown here on their  
25

1 maps, considers the NE/2 of this section to be in the fairway,  
2 to be productive. Cardinal owns leaseholds in the NW of 15,  
3 the NE of 15, which if this were spaced S/2, N/2, they would  
4 own a significant--a majority interest--in the production to be  
5 attributed to a spacing unit covering the N/2 of Section 15. The  
6 royalty owners under the E/2, the complaintants, who say their  
7 production will be cut in half will not face any such inequitable  
8 situation, because they will share in half of the production from  
9 the well contributed to the N/2 of 15, just as they share in the  
10 S/2 if spacing is set on that premise. They all say their interest  
11 will be cut in half; they obviously do not believe Cardinal's  
12 geology, because their interest will come as a result of their  
13 participation in the other spacing unit, if that is productive.  
14 North American Royalties does not feel that this N/2 will be  
15 productive--this is the premise--this is the whole argument.  
16 Cardinal thinks it will. It can be no disadvantage to Cardinal--  
17 it can be no disadvantage to the royalty owners who own in the  
18 E/2 in any way to space S/2, N/2, because they will participate  
19 in not just one well, but in two. In their ratable, proportionate  
20 share as their interest bearing too. The cost will be paid in the  
21 same ratable, proportionate share as working interest by a  
22 contract, bears to the whole of the cost, drilling, completion,  
23 operating. Every participant who has appeared today has ex-  
24 pressed a willingness to pay their fair share of the cost of  
25  
26  
27

1 drilling. North American Royalties does not own an interest  
2 in the NW/4. We did own an interest but that lease expired. It  
3 was not renewed. Our maps tell us that we don't want to renew  
4 it. Somebody else's maps say that's a valuable lease. Well,  
5 this is the conflict of experts, but no one's rights are being in-  
6 fringed upon by S/2 N/2 spacing as Cardinal proposes, if you  
7 believe and if they believe the exhibits that they present. If  
8 they believe their geology, they're in a better position and they  
9 own a greater interest in a N/2 spacing under the reservoir as  
10 they depicted, if it is spaced in that manner. Then, they will  
11 have, no matter how it works out -- spaced E/2 W/2. Thank you.

12  
13 MR. DAVIDSON: I agree with Mr. Thames with one point and  
14 that is it sure did take a long time to argue this case, I want  
15 to compliment him on his presentation. But I want to point out  
16 one erroneous thing and that is that his statement that no one  
17 has anything to gamble if we believe Cardinal's geology. Now,  
18 I'm here representing an oil company, as an attorney, I  
19 realize that oil companies are gamblers. I happen to be a land  
20 owner and I think someone should consider them. The land  
21 owners in the E/2 of the section already have production;  
22 they're entitled to a royalty payment -- they're not -- should not  
23 be subjected to exploration which now we know is based upon  
24 two conflicting geological theories. A bird in the hand is always  
25 worth two in the bush as far as I'm concerned, and I submit

1 to the Commission that the people that have that bird in the hand  
2 should be able to retain it without having part of it. . or half of it  
3 taken away by reason of the fact that someone desires to hold some  
4 leases in the SW/4 by production. I'm not going to belabor the  
5 point of. . the legal points involved here. I think they're all fair-  
6 ly representative now before the Commission. In my opinion--  
7 in my legal opinion, for whatever it is worth--I think the positions  
8 taken by Cardinal Petroleum Company as to these legal points  
9 are very well taken and I agree wholeheartedly with Mr. Roberts  
10 when he testifies that if North American's application is allowed  
11 to stand, it's going to throw the entire exploration process into  
12 complete chaos. Cardinal Petroleum Company has spent an ex-  
13 cess of \$170,000 to drill an oil well, based upon their own geol-  
14 ogy, without the assistance of anyone else, whether its the owner-  
15 ship of fee minerals or Continental or the minerals owner by. .  
16 or the--excuse me--the leases owned by North American. The  
17 fact still remains that Cardinal was the one willing to go out and  
18 find this oil--willing to expend the money to expose their resourc-  
19 es to this very great danger of hitting a dry hole. They were suc-  
20 cessful, and any ruling contrary to the Cardinal application would  
21 be contrary to good, solid, fair play. I thank the Commission for  
22 their time and Cardinal rests.

26 DR. NOBLE: Does anyone else wish to be heard in Case 1004 or  
27 Case 1005? If not, the Commission will take it under advisement.



1 STATE OF NORTH DAKOTA )

) ss

2 COUNTY OF GRAND FORKS )

3 I CERTIFY that the record of this hearing was made under  
4 my direction, and has been continuously in my custody; that no  
5 alterations or additions have been made to the record; and that  
6 this transcript thereof is true and correct, to the best of my  
7 knowledge and belief.

8 Done at Grand Forks, North Dakota, this 18th day of November,  
9 1970.

10 

11 F. E. Wilborn  
12 Assistant Petroleum Engineer

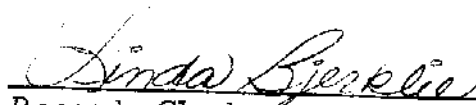
13 STATE OF NORTH DAKOTA )

) ss

14 COUNTY OF GRAND FORKS )

15 I HEREBY CERTIFY that the foregoing is a true and correct  
16 transcript of the original tape recording of said hearing, and a  
17 full and complete statement of the testimony and other proceedings which it purports to contain.

18 Done at Grand Forks, North Dakota, this 18th day of November,  
19 1970.

20  
21 

22 Records Clerk  
23 North Dakota Geological Survey  
24  
25  
26  
27



# Telegram

MA402 KC125

1970 AUG 18 PM 12 00

K OCC017 CP PDF=OKLAHOMA CITY OKLA 18 1129A CDT=

NORTH DAKOTA INDUSTRIAL COMMISSION=

STATE CAPITOL BISMARCK NOTTH DAKOTA=

AS A MINERAL OWNER, I SUPPORT POSITION OF NORTH AMERICAN  
ROYALTIES, INC. IN CASE NO 1004, REGARDING EQUITABLE  
SPACING UNIT SECTION 15-140N-96W STARK COUNTY=

HUSTON HUFFMAN 1207 PETROLEUM CLUB BUILDING  
OKLAHOMA CITY OKLA.

TELEPHONE 2200  
TELETYPE 18  
TIME PM 1 44  
BY BISMARCK, N. DAK.  
ATTEMPTS TO DELIVER



# Telegram

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M SPA161 KK NL PDB=ST PAUL MINN 18 =

INDUSTRIAL COMMISSION STATE OF NORTH DAKOTA=

STATE CAPITOL BUILDING BISMARCK NDAK=

L.W. HILL, JR. AN OWNER OF AN INTEREST IN THE SW-1/4  
AND THE EAST 1/2, SECTION 15-140-96 STRONGLY SUPPORTS  
APPLICATION OF NORTH AMERICAN ROYALTY FOR FORCED POOLING  
OF THE SOUTH 1/2 OF SECTION 15-140-96 CASE # 1004 AND  
OPPOSES CARDINAL APPLICATION CASE #1005=

LOUIS W HILL JR.==

SW1/4 1/2 15-140-96 1/2 15-140-96 #1004 #1005=

# CERTIFICATE OF PUBLICATION

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Dickinson, North Dakota

STATE OF NORTH DAKOTA, }

County of Stark.

Erv Barth, of said state and county, being first duly sworn, on oath says: That he is the office mgr. of the Dickinson Press, Inc., publisher of **THE DICKINSON PRESS**, a daily newspaper of general circulation, printed and published at Dickinson, in said county and state, and has been such during the time hereinafter mentioned; and that advertisement headed Notice of

publication  
a printed copy of which is hereunto annexed, was printed and published in **THE DICKINSON PRESS**, and in the regular and entire issue of each and every number 1 consecutive weeks, commencing on the 4 day of Aug A. D. 19 70, and ending on the 4 day of Aug A. D., 19 70, both inclusive.

Sworn to and subscribed to before me this 5 day of

August A. D. 19 70.

Ed J. Hauck

Ed J. Hauck

Notary Public, Stark County, N. Dak.  
My Commission Expires June 7, 1973

**NOTICE OF PUBLICATION**  
**N.D. INDUSTRIAL COMMISSION**  
**BISMARCK, NORTH DAKOTA**  
The State of North Dakota by its Industrial Commission hereby gives notice pursuant to law and the rules and regulations of said Commission promulgated thereunder of the following public hearing to be held at 9:30 a.m. on August 20, 1970 at the Hearing Room, State Capitol, in Bismarck, North Dakota.

**STATE OF NORTH DAKOTA TO:**  
All named parties and persons having any right, title, interest or claim in the following case and notice to the public. CASE NO. 1004: On a motion of the Commission to consider the application of Cardinal Petroleum Company for an order pooling all interests in the Dickinson - Heath in the S½ of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota. CASE NO. 1005: On a motion of the Commission to consider the application of North American Royalties, Inc. for an order pooling all interests in the Dickinson - Heath in the E½ of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota.  
N.D. INDUSTRIAL COMMISSION  
William L. Guy, Governor  
(Published August 4, 1970.)

\$ 5.28  
Date 8/21/70  
G

**HAROLD NELSON**  
State Printer



# AFFIDAVIT OF PUBLICATION

STATE OF NORTH DAKOTA, } ss

County of Burleigh.

Carmen Dullum, being duly sworn,  
says that she is a clerk of The Bismarck Tribune and that the  
annexed printed copy of

Notice of Publication N.D. Industrial Commission

Case No. 1004, 1005, 1007, 1008, 1009

was taken from The Bismarck Tribune, a daily newspaper, which  
during the whole time of publication of said notice hereinafter  
stated, has been, and was printed and published in the City of  
Bismarck, County of Burleigh, and State of North Dakota. That  
the said notice was published in said newspaper on the following

dates: 8/6

in each and every issue of the full number thereof, commencing  
on the 6 day of August 1970, and  
ending on the 6 day of August 1970,  
upon which days or times of publication aforesaid the said news-  
paper was regularly published.

Carmen Dullum  
Subscribed and sworn to before me this 7 day of  
August, A. D. 1970.

Paul J. Patera  
Notary Public, Burleigh County, N. D.

My commission expires March 24, 1976

Cost of Publication, \$ 12.80

cld  
AI-25

PAUL J. PATERA  
Notary Public, BURLEIGH CO., N. Dak.  
My Commission Expires Mar. 24, 1976.

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## NOTICE OF PUBLICATION N. D. INDUSTRIAL COMMISSION

**BISMARCK, NORTH DAKOTA**  
The State of North Dakota by  
its Industrial Commission hereby  
gives notice pursuant to law and  
the rules and regulations of said  
Commission promulgated  
thereunder of the following  
public hearing to be held at 9:30  
a.m. on August 20, 1970 at the  
Hearing Room, State Capitol, in  
Bismarck, North Dakota.

STATE OF  
NORTH DAKOTA TO:  
All named parties and persons  
having any right, title, interest  
or claim in the following case  
and notice to the public: CASE  
NO. 1004: On a motion of the  
Commission to consider the  
application of North American  
Royalties, Inc. for an order pool-  
ing all interests in the Dickin-  
son-Heath in the S½ of Section  
15, Township 140 North, Range  
96 West, Stark County, North  
Dakota. CASE NO. 1005: On a  
motion of the Commission to  
consider the application of Car-  
dinal Petroleum Company for an  
order pooling all interests in the  
Dickinson-Heath in the E½ of  
Section 15, Township 140 North,  
Range 96 West, Stark County,  
North Dakota. CASE NO. 1007:  
On a motion of the Commission  
to consider the application of  
Earl Schwartz Company, a part-  
nership, for an order permitting  
a well to be drilled 1320 feet  
from the east line and 1980 feet  
from the north line of Section  
30, Township 161 North, Range  
81 West as an exception to  
special field rules as may be  
necessary.

N. D. INDUSTRIAL  
COMMISSION  
William L. Guy, Governor  
3/6