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 SE¼ 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 ½ 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 ½ of section 15-140-96 as the spacing unit for the well in the SE¼ 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 ½ of section 15-140-96, Stark County, as the spacing unit for the well in the SE¼ 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 38-08-08, 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 38-08-08.

(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 8 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 NW¼ 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 N½ 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 SW¼ and the NE¼ of section 15-140-96, Stark County, are not similar and identical; if the NE¼ is combined with the SE¼ to form a 320 acre spacing unit those persons who own interests in the SW¼ would not share in any production from the well in the SE¼; if the SW¼ is combined with the SE¼ to form a 320 acre spacing unit those persons who own interests in the NE¼ would not share in any production from the well in the SE¼.

(16) That Cardinal Petroleum Company contends those persons owning interests in the SW¼ of section 15-140-96, Stark County, would share in the production from a well to be drilled in the NW¼ if the east ½ and west ½ of the section form spacing units; North American Royalties, Inc., contends those persons owning interests in the N½ would share in production from a well in the NW¼ if, as Cardinal contends, the north ½ of the section is underlain by oil and the north ½ and the south ½ form spacing units.

(17) That the conflicting evidence as to the amount of oil underlying the north ½ of section 15-140-96, Stark County, is inconclusive.

(18) That should a well in the NW¼ of section 15-140-96, Stark County, produce in quantities comparable to the well in the SE¼ 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 NW¼ 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 SE¼, the question of whether the sapcing 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 SE¼ is coming primarily from the north ½ or the south ½ of the section; that should a well in the NW¼ 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 NW¼ 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 NW¼ 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 ½ and south ½ of the section or the east ½ and the west ½ of the section will be determined by this Commission after the well in the NW¼ 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 NW¼ 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

October 5, 1970

Mr. John L. Sherman
100 Liberty National Bank Bldg.
P. O. Box 1097
Dickinson, North Dakota 58601

Dear Mr. Sherman:

Enclosed is a list of the perople that appeared in Cases 1004 and 1005 before the Industrial Commission at the Hearing on August 20, 1970.

Yours very truly,

F. E. Wilborn
Assistant Petroleum Engineer

lb
enclosure

STATE OF NORTH DAKOTA
HELGI JOHANNESON
ATTORNEY GENERAL

BISMARCK, NORTH DAKOTA 58501

TELEPHONE
224-2210

PAUL M. SAND
FIRST ASSISTANT

JOHN E. ADAMS
GERALD W. VANDEWALLE
VANCE K. HILL
LYNN E. ERICKSON
ROBERT P. BRADY
ASSISTANTS

MAYBELLE GULLING
CHARLOTTE LOGAN
ELSIE J. JOHNSTON
SECRETARIES

SUSAN ALBERS
CLERK

JOHN R. ERICKSON
AUDITOR

October 2, 1970

Mr. C. B. Folsom, Jr.
Petroleum Engineer
Geological Survey
University of North Dakota
Grand Forks, North Dakota 58201

Dear Burt: Re: Industrial Commission Cases
1004 and 1005

Enclosed is a copy of a letter dated October 1, 1970, from John L. Sherman, Attorney at Law, Box 1097, Dickinson, North Dakota, in which Mr. Sherman requests the names and addresses of all persons appearing at the August 20, 1970, hearing of the above captioned cases as well as the names and addresses of their counsel. I assume Mr. Sherman is referring to those persons filing written appearances at the hearing as provided by section 38-08-11(6) of the North Dakota Century Code.

Since the written appearances are in your possession I would appreciate your forwarding the requested information directly to Mr. Sherman. Thank you.

Yours very truly,

Gerald W. VandeWalle

Gerald W. VandeWalle
Assistant Attorney General

GWV:l
enc.

cc-Mr. John L. Sherman
Attorney at Law
Box 1097
Dickinson, North Dakota

LAW OFFICES

MACKOFF, KELLOGG, KIRBY & KLOSTER, P. C.

100 LIBERTY NATIONAL BANK BUILDING

P. O. BOX 1097

DICKINSON, NORTH DAKOTA 58601

TELEPHONE 225-8143

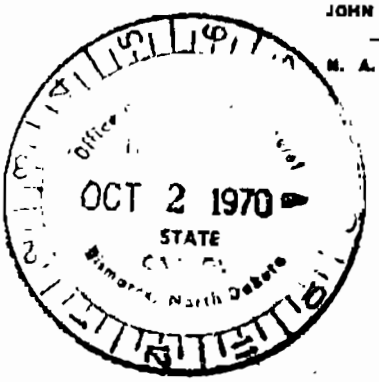
AREA CODE 701

WARD M. KIRBY
PAUL G. KLOSTER
GORDON SCHNELL

THEO. KELLOGG
JOHN L. SHERMAN

M. A. MACKOFF 1889 - 1966

October 1, 1970



Mr. Gerald W. VandeWalle
Assistant Attorney General
State Capitol Building
Bismarck, North Dakota 58501

Re: North Dakota Industrial Commissions
Cases 1004 and 1005

Dear Gerry:

Please advise as to the names and addresses of all persons appearing at the August 20, 1970, hearing of the captioned cases, as well as the names and addresses of their counsel.

Very truly yours,

MACKOFF, KELLOGG, KIRBY & KLOSTER, P.C.

By John L. Sherman, Attorney

JLS/do

STATE OF NORTH DAKOTA
ss
COUNTY OF GRAND FORKS

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. 1005.

Mr. Tom Voorhees	Box 1077 Billings, MT 59103	Mr. Ronald D. Ragland 1814 Lyndale Lane Billings, MT 59102
Mr. W. L. Walker	Box 1077 Billings, MT 59103	
Mr. Durvand E. Balch	4909 Bywood West Minneapolis, MN 55424	
Mr. Theodore Kellogg	P. O. Box 1097 Dickinson, ND 58601	
Mr. John R. Davidson	Room 805, Midland Bank Bldg. Billings, MT 59101	
Mr. C. B. Thames Sr.	P. O. Box 400 Bismarck, ND 58202	
Mr. Arthur C. Bauer	P. O. Box 1476 Bismarck, ND 58202	
Mr. Joseph Kralicek Jr.	Capitol Bldg. Dickinson, ND 58601	

(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

J. HIRAM MOORE
GEOLOGIST
314 GULF BUILDING
MIDLAND, TEXAS 79701

OFFICE TELEPHONE AC 915 682-7252 RESIDENCE TELEPHONE AC 915 682-2904

August 17, 1970

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

Application of Cardinal Petroleum Company
for an Order Pooling all interest in the
Spacing Unit Described as the E/2 of
Section 15, Township 140 North,
Range 96 West, in the Dickinson-Heath
Pool, Stark County, North Dakota

With reference to above application for hearing scheduled for August 20, 1970, please be advised that because of previous business commitments I will not be able to personally attend this hearing.

As both a working interest owner and mineral interest owner, I respectfully request that you approve the spacing unit as requested by Cardinal Petroleum Company et al.

Cardinal Petroleum Company et al took the entire initial risk of drilling the well at its present location. Should it have been a dry hole, North American Royalties, Inc. would have paid none of the costs. In all fairness to Cardinal Petroleum Company et al for assuming the entire burden of drilling the outpost well, the spacing unit should be approved as requested to be the E/2 of Section 15.

J. Hiram Moore

J. H. MOORE

Dickinson, North Dakota
August 17th, 1970

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

Gentlemen:

This letter states my position in regard to the spacing of oil wells on Section 15, Township 140 North, Range 96 West.

I have aproximately 20 acres of minerals under this and adjoining land in Section 14. I am opposed to the application of North American Royalties for North-South spacing in Section 15 and beleive that North American Royalties, which I understand has a substantial leasehold in the Southeast Quarter where the well is located as well as leases on the Northwest Quarter of Section 15, the Southeast Quarter of Section 16, and the Northwest Quarter of Section 21, has sufficient protection without claiming one-half of the production from the well on the Southeast Quarter.

Yours Sincerely,

Margaret Rummel

Margaret Rummel

P.S. - Intend to be present at meeting on August 4th, 1970

TELEPHONE 223 9600

Holiday Inn® OF BISMARCK

U. S. HIGHWAY 10 • P. O. BOX 1015

BISMARCK, NORTH DAKOTA 58501

July 13, 1970

N.D. Industrial Comm. Re: 140/96
Bismarck, N. Dak. SUSETT,

Dear Sir,

Just a quick note to ask that you take your time & freely cooperate to Sincerely & wholly, & more specifically to Cardinal Lil & Billy - Seems that though I leased to Mr. Dan Royalty of Bismarck that Cardinal is making for a just & decent opening program supporting their out-lay of cash & female & subsequent strike - Also Conoco has refused to subsidize & provided by drilling No - So - hire I know most of your people & town if you know facts or I know them you will not find my personal endorsement in favor of Cardinal out of order -

Yours truly

John Ramsey





Douglass, Kansas
June 30, 1970

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

Dear Sir: I am in receipt of a letter from Cardinal Petroleum and also one from Joe Hiram Moose of Midland Texas who is the Trustee of my brothers Estate, who was T. L. Landis of Dickinson N. D. These letters explained to me the interest both had in the drilling and leasing of the E ½ Sec 15-149N-96W acreage.

A few days previous to this I had received a Communitization Agreement from North American Royalties for the S ½ Sec 15-149N-96W. Not realizing the significance of this I signed the agreement and sent it in. I now regret doing this!

Since Mr J. H. Moore handles my brothers Estate hence, or therefore, my interest in this lease, it behooves me to go along with them.

At the hearing on July 21, 1970 I wish to go on record as standing by Cardinal Petroleum and Mr J. H Moore.

Thank you E.P.

Yours truly
Emma Landis-Purves
427 So. Maple St (or Box 15)
Douglass, Kansas 67039

Received 6/29/70 AC

June 24, 1970

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

RE: Application of Cardinal Petroleum Company for an Order Pooling all interest in the Spacing Unit described as the E½ of Section 15, Township 140 North, Range 96 West, in the Dickinson-Heath Pool, Stark County, North Dakota

Gentlemen:

Prior to notification from Cardinal Petroleum Company at the request of North American Royalties, Inc., I signed a Communitization Agreement concerning the Dickinson-Heath Pool, Stark County, North Dakota.

I have subsequently been advised that my best interest would be served if the Cardinal application were granted regarding this unitization rather than the application of North American.

The purpose of this letter, therefore, is to advise you that I hereby and by these presents do revoke my execution of the Communitization Agreement submitted by North American Royalties, Inc. and executed by me on or about the 22nd day of June, 1970.

By copy of this letter I am notifying both Cardinal and North American of this action.

Your assistance in this matter will be greatly appreciated.

Yours very truly,

Viola F. Younger

MRS. VIOLA YOUNGER

cc: Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

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

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

CARDINAL

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

Although your Lessee is North American Royalties, we feel that your interest in this matter coincides with that of Cardinal Petroleum Company and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the SW¼. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the S½ as North American Royalties desires, rather than the E½ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the S½ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the E½ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 24 day of June, 1970.

Cecil A. Gregg

P. O. BOX 1077
BILLINGS, MONTANA
59103

CASE #1105

AREA CODE 406
PHONE 248-7324

JUN1970
RECEIVED
N. Dak. Geological Survey

June 22, 1970

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

Re: Application of Cardinal Petroleum Company for an Order Pooling all Interest in the Spacing Unit Described as the E½ of Section 15, Township 140 North, Range 96 West, in the Dickinson-Heath Pool, Stark County, North Dakota

Gentlemen:

Cardinal Petroleum Company, as the owner of an oil and gas leasehold interest in the E½ of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota, respectfully requests that the Commission enter an Order pooling all interests in the E½ of Section 15, Township 140 North, Range 96 West, insofar as it concerns oil and gas production from the Heath Pool. The E½ of Section 15 is contained within the field limits of the Dickinson-Heath Pool established by the Commission in Order No. 920, Case No. 848.

The permitted well for this Spacing Unit, located in the SW SE of Section 15, was recently drilled and completed by Cardinal Petroleum Company. An approved permit to drill this well designating the E½ of Section 15 as the Spacing Unit was obtained by Cardinal Petroleum Company on March 30, 1970, being Permit No. 4917 33-089-00100.

It is requested that Cardinal Petroleum Company be named the Operator of all activities conducted in the Spacing Unit.

The Commission is in receipt of an Application by North American Royalties, Inc. for the Spacing Unit for the well drilled in the SW SE of Section 15, Township 140 North, Range 96 West, to be designated the S½ of Section 15. It is requested that both applications be heard together.

Cardinal has been unable to obtain a voluntary Pooling Agreement pooling all interests in the Spacing Unit and it is therefore requested that the Commission enter an Order pooling the interest in the E½ of Section 15.

It is therefore requested that this matter be heard at the next regularly scheduled meeting of the Industrial Commission on July 21, 1970, at which time Cardinal will submit evidence in support of this request.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

DKR:dmf
cc: Dr. Edwin A. Noble
North Dakota Geological Survey
University Station
Grand Forks, North Dakota 58201

Mr. Louis W. Hill, Jr.
W. 1453 First National Bank Bldg.
St. Paul, Minnesota 55101

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

Joe Hiram Moore
Suite 314
Gulf Building
Midland, Texas 79701

Copy

June 24, 1970

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

RE: Application of Cardinal Petroleum Company for an Order Pooling all interest in the Spacing Unit described as the E½ of Section 15, Township 140 North, Range 96 West, in the Dickinson-Heath Pool, Stark County, North Dakota

Gentlemen:

Prior to notification from Cardinal Petroleum Company at the request of North American Royalties, Inc., I signed a Communitization Agreement concerning the Dickinson-Heath Pool, Stark County, North Dakota.

I have subsequently been advised that my best interest would be served if the Cardinal application were granted regarding this unitization rather than the application of North American.

The purpose of this letter, therefore, is to advise you that I hereby and by these presents do revoke my execution of the Communitization Agreement submitted by North American Royalties, Inc. and executed by me on or about the 22nd day of June, 1970.

By copy of this letter I am notifying both Cardinal and North American of this action.

Your assistance in this matter will be greatly appreciated.

Yours very truly,

Viola L. Younger

MRS. VIOLA YOUNGER

cc: Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

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

STATE OF NORTH DAKOTA

COUNTY OF BURLEIGH

IN DISTRICT COURT

FOURTH JUDICIAL DISTRICT

Cardinal Petroleum Company,
Appellant,

vs.

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.

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 complete 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

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 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,

Respondents.

CERTIFICATE OF RECORD ON APPEAL TO DISTRICT COURT

Civil #21206

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.

Bonnie Chase

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

INDUSTRIAL COMMISSION

STATE OF NORTH DAKOTA

CARDINAL PETROLEUM COMPANY

APPELLANT,

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.

ORDER NO. 1082

CASES NOS. 1004 & 1005

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.

Bonnie Chase

October 7, 1970

Bonnie Chase, Secretary
North Dakota Industrial Commission

STATE OF NORTH DAKOTA
ss
COUNTY OF GRAND FORKS

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 & 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

Clarence B. Folsom, Jr.
(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

STATE OF NORTH DAKOTA — IN DISTRICT COURT

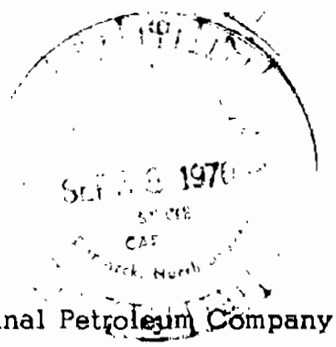
COUNTY OF BURLEIGH — FOURTH JUDICIAL DISTRICT

APPEAL FROM ORDER OF

THE INDUSTRIAL COMMISSION

OF STATE OF NORTH DAKOTA

CARDINAL PETROLEUM COMPANY, Appellant, vs. 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.	Civil No. _____ NOTICE OF APPEAL CASES NOS. 1004 & 1005 ORDER NO. 1082



TO THE ABOVE-NAMED RESPONDENTS:

You will please take notice that Cardinal Petroleum Company, the Appellant above-named, feeling aggrieved by the Findings of Fact, Conclusions of Law and Order No. 1082 of the Industrial Commission of the State of North Dakota in their consolidated cases Nos. 1004 and 1005, which Order is dated the 8th day of September, 1970, wherein the Commission denied the motion of Appellant to dismiss the application of the Respondent North American Royalties, Inc., in Case No. 1004 requesting an order pooling all interests in the Dickinson-Heath pool in the S½ of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota, and in addition thereto and among other things, determined that no final decision will be made upon the application of Appellant for an order pooling all interests in the Dickinson-Heath pool in the E½ of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota, until Appellant had drilled a

well in the NW¼ of said Section 15, hereby appeals to the District Court of Burleigh County, North Dakota, from said Findings of Fact, Conclusions of Law and Order, and said Appellant demands a review of all the evidence and Order of the Industrial Commission of the State of North Dakota and the Findings of Fact, Conclusions of Law and all proceedings of said Commission in said matter.

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

DATED this 24TH day of September, 1970.

CARDINAL PETROLEUM COMPANY

By _____

John R. Davidson
Attorney for Appellant
KURTH, JONES, DAVIDSON & CALTON
805 Midland Bank Building
Billings, Montana 59101

_____

Donald K. Roberts, Attorney
Cardinal Petroleum Company
Petroleum Building
Billings, Montana 59101

STATE OF NORTH DAKOTA — IN DISTRICT COURT

COUNTY OF BURLEIGH — FOURTH JUDICIAL DISTRICT

APPEAL FROM ORDER OF

THE INDUSTRIAL COMMISSION

OF STATE OF NORTH DAKOTA

CARDINAL PETROLEUM COMPANY, Appellant, vs. 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.	Civil No. _____ SPECIFICATIONS OF ERROR

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

I

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

II

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

III

That the Commission erred in its Order in not including under

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

IV

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

V

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

VI

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

VII

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

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.

XIII

That the Commission erred in failing to find that North American Royalties, after early discovery of Cardinal Petroleum Company's intent to 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 unit, failed to do any act to prevent the well from being drilled by Cardinal Petroleum Company at its cost and are now estopped from claiming a contrary spacing unit after the well has been placed on production.

XIV

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

XV

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

XVI

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

XVII

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

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

DATED this 24TH day of September, 1970.

CARDINAL PETROLEUM COMPANY

By _____
John R. Davidson
Attorney for Appellant
KURTH, JONES, DAVIDSON & CALTON
805 Midland Bank Building
Billings, Montana 59101

_____
Donald K. Roberts, Attorney
CARDINAL PETROLEUM COMPANY
Petroleum Building
Billings, Montana 59101

STATE OF NORTH DAKOTA — IN DISTRICT COURT

COUNTY OF BURLEIGH — FOURTH JUDICIAL DISTRICT

APPEAL FROM ORDER OF

THE INDUSTRIAL COMMISSION

OF STATE OF NORTH DAKOTA

CARDINAL PETROLEUM COMPANY,

Appellant,

vs.

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.

Civil No. _____

UNDERTAKING ON APPEAL

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 NW¼ 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),

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

DATED this 24 day of September, 1970.

CARDINAL PETROLEUM COMPANY

By _____
Donald K. Roberts,
Its Attorney

STATE OF MONTANA)
) ss.
COUNTY OF YELLOWSTONE)

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

_____
Notary Public for the State of Montana
Residing at Billings, Montana
My commission expires: 5-20-71

The foregoing undertaking and surety thereon are hereby approved this 2 day of _____, 1970.

BY THE COURT:

_____



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 Agriculture, all as members of the North Dakota Industrial Commission, HELGI JOHANNESON, as Attorney General of North Dakota, and NORTH AMERICAN ROYALTIES, INC.,

Respondents.

AFFIDAVIT OF SERVICE BY MAIL

STATE OF MONTANA)
) ss.
County of Yellowstone)

EILEEN A. STOUT being first duly sworn deposes and states:

That she is a person over the age of 21 years and is not a party to the above-entitled action nor interested therein.

That on the 25th day of September, 1970, she deposited in the United States Mails at Billings, Montana envelopes with postage prepaid and certified thereon, each containing the following true copies:

1. Notice of Appeal
2. Specifications of Error
3. Undertaking on Appeal
4. Affidavit of Service by Mail

such envelopes being addressed as follows:

Helgi Johanneson, Attorney General
Office of the Attorney General
State Capitol Building
Bismarck, North Dakota 58501

Gerald W. VandeWalle
Counsel for North Dakota Industrial Commission
State Captiol Building
Bismarck, North Dakota 58501

Theodore Kellogg
Attorney at Law
P. O. Box 1097
Dickinson, North Dakota 58601

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

/s/ EILEEN A. STOUT

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

/s/ CHARLES W. JONES

Notary Public for the State of Montana
Residing at Billings, Montana
My commission expires: March 5, 1973

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 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 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.

TRANSCRIPT

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.

MR. FRANK RUMMEL, appearing for himself.

MR. JOHN R. DAVIDSON, appearing for Cardinal Petroleum Co.

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

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

MR. JOSEPH KRALICEK, JR., appearing for Joseph Kralicek Jr. and Frank Veverka.

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

MR. TOM VOORHEES, appearing for Cardinal Petroleum Co.

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

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

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

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

MR. GERALD W. VANDEWALLE, appearing for the Commission.

MR. CHARLES TARR, appearing for Continental Oil Co.

MR. NORBERT MUGLEY, appearing for himself.

GOVERNOR GUY: We have before us 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 Section 15, T. 140N., R. 96W., Stark County, North Dakota. We also have the following Case No. 1005, 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, T. 140 N., R. 96W., Stark County, North Dakota. These two orders refer to the same case really...ah these two cases, I should say, refer to the same location in this field. We have a letter from Cardinal asking that both cases be heard at once. Will the representatives for North American Royalties indicate whether they want these cases to be heard together.

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

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

ALL: I do.

GOVERNOR GUY: Proceed.

MR. THAMES: It please the Commission...

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

GOVERNOR GUY: Yes?

MR. ROBERTS: Don Roberts, Cardinal Petroleum Company in Billings. Before proceeding with North American's testimony, we have a motion to submit to the Commission. Cardinal, as a major working interest owner in the E/2 of Section 15 of 140-96 and as you have pointed out, the applicant for an order pooling that E/2 of Section 15, and further as the operator of the well in question here today--the Shank well located in the SW SE of Section 15--we'd like, at this time, to move that the Commission dismiss North American Royalties' application--their application for an order pooling the S/2 of Section 15. In support of this application, Cardinal would like the following statement entered into the record: We believe it is necessary to enlighten the Commission as to the reason for our motion; to present to the Commission some of the chronology involved and what has led to this hearing. Cardinal Petroleum Company applied for a permit to drill a well in the SW SE of Section 15 of 140-96. In that application, the spacing unit was designated as the E/2 of Section 15. This application was made on March 25, 1970; the permit was approved, as applied for, by the State Geologist on March 30th, 1970.

In that permit, the E/2 was designated as the spacing unit. Before and after obtaining this permit, Cardinal and J. Hiram Moore, who are two of the working interest owners in the E/2 of Section 15, unsuccessfully attempted to voluntarily pool all the working interest owners within the E/2 of Section 15. The effort was made because development in the Dickinson Field was descending toward NE. It was apparent that something had to be done to develop Section 15. After waiting for other working interest owners to do something, Cardinal took the initiative and obtained the drilling permit. After obtaining the drilling permit, a period of time elapsed in which we again tried to get everybody's cooperation, and finally in May of 1970, Cardinal and J. Hiram Moore drilled and completed in early June the 15-15 Shank well as a commercial Heath Sand producer. Subsequent to the completion of that well, North American Royalties made application on June 18th, 1970, to this Commission to declare the S/2 as a pooled unit--their application was to involuntarily pool the S/2 of Section 15. This application made the statement that for the information of the Commission, there had been a well drilled in the SW SE of Section 15. They did not state whether or not they were involved in the drilling of the well, and as a matter of fact, they were not. They refused to participate in the well. They asked this Commission to involuntarily pool the S/2 even though a spacing unit exists, and existed at that time, as to

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

cisions made by the State Geologist, because the State Geologist has approved two drilling permits. As you are all aware, the State Geologist, before he grants the drilling permit under the regulations, must determine if correlative rights will be protected and if there will be waste. He has made this decision when he granted to Cardinal the two permits. We see some very practical dangers involved in North American's application. We submit that North American is not an interested person if that term is used in the involuntary pooling statute of North Dakota. Only an interested person can bring a hearing for involuntary spacing. We contend that an interested person, as the term is used in the statute, means someone who has spent, or who is willing to spend; or who has taken the risk or is willing to take the risk to drill an oil or gas well. North American does not fall in any of these catc--classifications. Our definition of an interested--this definition of an interested person is predicated on the fact that half of the involuntary pooling statute is devoted to a provision whereby this Commission determines how those people who spent the money can recover their share of cost out of production. So, the legislature had in mind that an interested person can only mean somebody who has taken the risk and who has spent the money. We would further submit to the Commission that in the event that North American's application is granted, that the meaning--

--the significance of a drilling permit in the state of North Dakota

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

concerning the costs that were incurred and submit to this Commission a plan whereby Cardinal and J. Hiram Moore will be able to recover their cost out of production. We simply don't see why this Commission should now consider an application reversing established spacing units, and force pooling the S/2 of Section 15. We would therefore ask this Commission to dismiss North American's application.

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

MR. KELLOGG: Mr. Chairman.

GOVERNOR GUY: Yes.

MR. KELLOGG: My name is Theodore Kellogg from Dickinson, and I'm a lawyer. I'm representing Mr. and Mrs. Jacob Schank, Mr. E. Rakowski, Mr. Ward Kirby, and myself, who are mineral owners on the E/2 of Section 14 involved here. On behalf of these parties, I wish to join in the motion that has been made by Mr. Roberts of Cardinal, without presenting any arguments that he has made the argument, but I wish to join in behalf of each party and add to that motion. We do not believe that the statutes here authorize the application that has been made by North American as has been indicated in this argument, so that jurisdiction is referred to entertain such an application. Therefore, we add to this motion that no jurisdiction rests with this Commission under our statutes, to entertain the application they have made.

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

GOVERNOR GUY: All right, yes.

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

GOVERNOR GUY: All right, proceed.

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

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

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

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

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

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

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

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

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

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

MR. THAMES: Yes.

GOVERNOR GUY: For a continuing objection?

MR. THAMES: Yes.

GOVERNOR GUY: All right.

MR. THAMES: First, the Commission has historically used the designation of spacing units by an operator only for purposes of determining acreage to be enclosed and if that was the required number of acres for a spacing unit. The motion has been based on facts not in evidence and no evidence has been yet produced under oath, which supports the testimony of Attorney Roberts or any other people at this stage of the proceeding, they protested the drilling of a well per se vests no rights in the driller of that well, except the compensation ratably for his share and everyone else's share of the cost from production in the spacing unit as the Commission will set a spacing unit. That a permit is certainly not necessary on the part of North American Royalties for a well that's already been drilled by someone else. The objectors who are mineral owners here fall outside of the definition of interested persons as set forth by Mr. Roberts in his argument and they have then no interest in these proceedings;

they have no cost for bearing interest will further be shown that Cardinal and their co-working interest owners own a minority interest--cost-bearing interest--in the E/2. It will be shown that they would own a minority interest in the S/2 were that the spacing unit. It will be shown that the mineral owners, who appear here, also own a minority interest in the E/2 of the spacing as well as the S/2. That the application of Cardinal and their objection is based upon a minority interest in both cost-bearing and in royalty interests within the tracts in question. Either one--and that majority interests--cost-bearing as well as non-cost-bearing in both of these spacing units lie with North American Royalties and the supporters of the motion and application of North American. If we may proceed.

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

MR. THAMES: May it please the Commission. C. B. Thames, Jr. Case No. 1004, representing North American Royalties. Question before the Commission is of correlative rights and of the determination and setting of those rights, and the recognition of those rights by the Commission. The testimony by a geologist and Petroleum Engineer will set out the fundamental technical basis for the consideration of this Commission of a proper spacing unit--320-acre spacing has been established by a field-wide order and this hearing is to determine the orientation of a

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

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

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

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

MR. THAMES: And in what capacity?

MR. ZAJIC: I'm area geologist.

MR. THAMES: Would you state your...briefly state your educational experience background, Mr. Zajic?

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

MR. THAMES: Have you previously testified before this Commission as an expert witness?

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

MR. THAMES: We ask this testimony of this witness be considered that of an expert.

GOVERNOR GUY: Yes.

DR. NOBLE: Your testimony will be accepted as that of an expert witness, Mr. Zajic.

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

MR. ZAJIC: Yes, I have.

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

MR. ZAJIC: Yes, I have.

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

MR. ZAJIC: Ah.. I have prepared seven exhibits and the first three or four exhibits will be a brief rundown on the Dickinson, West-Dickinson Fields. Ah.. Exhibit 1 is an Isopach Map of the map A Sandstone and it is contoured on one-foot contour interval. It shows the distribution of the A sand in relation to the West-Dickinson and Dickinson Fields. Specifically, it shows that the A sandstone is not present in Section 15 of 140N., 96W. Exhibit 2 is an Isopach Map of the mapped Heath B Sandstone, the contour interval is one foot. This map also shows the distribution of the B Sand in relation to the Dickinson and West-Dickinson Field and also shows in our area of interest, in Section 15--the SW SE of 15--140N., 96W., that it is productive. It also shows that the sand is not present in the N/2 of Section 15. This map is only an orienta-

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

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

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

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

MR. ZAJIC: Yes, I do.

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

MR. ZAJIC: My opinion is that no produc.. no commercial production ah.. would be found in the N/2 of Section 15.

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

studies yourself?

MR. ZAJIC: Yes, I have.

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

MR. ZAJIC: Yes, I have.

MR. THAMES: And electric logs?

MR. ZAJIC: Yes, I have.

MR. THAMES: Did you prepare these exhibits yourself?

MR. ZAJIC: Yes, I did.

MR. THAMES: These represent your own work?

MR. ZAJIC: Yes.

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

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

MR. THAMES: And ah.. did you make these interpretations yourself?

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

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

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

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

water contact in that area?

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

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

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

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

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

MR. ZAJIC: Sir?

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

MR. ZAJIC: I don't know.

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

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

MR. ROBERTS: There is no need for additional developement then?

MR. ZAJIC: Based on my maps, no.

MR. ROBERTS: Wasn't this the opinion reached in 1968 and later in 68 by an engineering committee of which North American

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

MR. ZAJIC: What year was that?

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

MR. ZAJIC: I don't know, I was not an employee of North American Royalties at that time.

MR. HARRISON: I would like to ask Mr. Zajic a question if I may. Ray Harrison of Cardinal. You ah..have from your maps pretty well eliminated the N/2 of Section 15, Dick, for two reasons. One is the lack of sand and the other is the structural position. You have in the Southwest part of Township 140-96, you have mapped a series of minor anticlinal flectures extending normal to strike in a downdip direction. One of them running through Section 31, the other through 29 and 30, and then a major one up in Section 20. Now, I'm curious as to why you have another one started there in Section 26, which is as pronounced on the -5300 contour datum as the others that carry through ah..why do you believe that does not continue and create another minor anticlinal flecture right through Section 15?

MR. ZAJIC: Well, it's just a matter of geologic interpretation--my interpretation--the low well in the SW SE of 16 ah..is anomalous and it's low and it, in my interpretation, stops that ah.. nose trend.

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

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

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

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

MR. ZAJIC: No.

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

MR. ROBERTS: Mr. Zajic, was your map..your exhibit prepared before or after the Shank well was drilled?

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

MR. ROBERTS: Did you have to change Exhibit 2 after the Cardinal well was drilled?

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

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

MR. ZAJIC: Net.

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

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

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

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

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

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

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

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

MR. ZAJIC: One foot more.

MR. ROBERTS: Yes, 6 is...

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

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

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

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

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

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

MR. HARRISON: Yes, the regional trend of the.. I mean the... I asked you if you did or if you did not believe that the development of the effective B Sand porosity ah.. follows the general trend of the basin... the figuration of the basin as we see it now structurally.

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

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

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

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

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

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

DR. NOBLE: You're supposed to... do you have any further testimony?

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

DR. NOBLE: We will accept these exhibits. Are there any objections to accepting these exhibits? Right, we will consider them.

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

MR. RAGLAND: Ronald A. Ragland, and I'm a Consulting Engineer for North American Royalties.

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

MR. RAGLAND: I have about 15 years' experience as Petroleum Engineer of major oil companies and independant oil companies and consulting. I'm a registered, professional Engineer in Montana.

MR. THAMES: Have you previously testified before this Commission?

MR. RAGLAND: Yes, I have.

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

MR. RAGLAND: Yes, I have.

MR. THAMES: Have you prepared exhibits which show the results of that study?

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

MR. THAMES: Would you explain those exhibits to the Commission please?

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

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

MR. THAMES: Would you explain Exhibit 10?

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

MR. THAMES: Does this indicate, Mr. Ragland, that the reservoir in the immediate area of the Cardinal Shank well is in pressure continuity with the other portions of the B Zone in the West Dickinson Field?

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

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

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

MR. THAMES: Thank you.

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

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

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

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

MR. RAGLAND: Yes, I have.

MR. THAMES: What, and on what basis do you make this estimate? What is your estimate of the reserves underlying the NE/4 of Section 15?

MR. RAGLAND: The original recoverable oil underlying the NE/4, based on my interpretation, would be approximately 10,000 barrels. There has been some drainage, so this would not be the actual recoverable oil at present, but would have been the recoverable oil initially.

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

MR. RAGLAND: This is based on a volumetric determination of the acre feet underlying the NE/4 and applying a reasonable recovery factors to the oil in place.

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

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

do not include any secondary reserves.

MR. THAMES: And, in the SW/4 have you made a similar confrontation?

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

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

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

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

MR. RAGLAND: Approximately 2,000 barrels.

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

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

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

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

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

MR. RAGLAND: There ah...there would be some slight drainage from the N/2 to the S/2, yes.

MR. THAMES: You may cross-examine.

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

MR. RAGLAND: They're based on..you mean the porosity, recovery factors, and so forth?

MR. ROBERTS: Geological factors.

MR. RAGLAND: Geological factors? They were based on the estimated net feet of pay and the vicinity of the well.

MR. ROBERTS: As determined from the geological exhibits previously entered?

MR. RAGLAND: Yes, those were used.

MR. ROBERTS: While you were doing volumetric..putting volumetric calculations to Mr. Zajic's map structure?

MR. RAGLAND: Correct.

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

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

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

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

well, no.

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

MR. RAGLAND: Yes.

MR. ROBERTS: Which well is that?

MR. RAGLAND: I would say that the entire field ah.. all the wells in it have contributed somewhat to the drainage in that quarter section ah.. because I would interpret the pressure in that quarter section to be somewhat in the order of the pressure in the Cardinal well and because the pressure has been depleted ah.. drainage has occurred, and this drainage has occurredas a result of wells to the south. Now, I couldn't pin it down to which one.

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

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

MR. ROBERTS: Substantially?

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

MR. ROBERTS: As much as the Cardinal well.

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

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

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

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

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

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

MR. ROBERTS: So that well could be the instrumental in drainage in the SW/4?

MR. RAGLAND: Yes.

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

MR. RAGLAND: Yes.

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

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

MR. ROBERTS: Well, if there was a zero sand isopach somewhere reasonably close to the North of the Cardinal well, it possibly could have shown up on that drill stem test.

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

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

MR. RAGLAND: Correct, no barrier indicated.

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

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

DR. NOBLE: Mr. Kellogg.

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

MR. RAGLAND: Yes, sir.

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

MR. RAGLAND: Yes, sir.

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

there has been.. an estimate?

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

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

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

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

MR. RAGLAND: Yes, sir.

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

MR. RAGLAND: Yes, sir.

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

MR. RAGLAND: Yes, sir.

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

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

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

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

MR. KELLOGG: Can you compute it on the basis of the information you have now?

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

all, this would be a material-balanced calculation. And to complete a material-balanced calculation--to make it worthwhile--it would be necessary to have accurate measurements of the properties of the crude oil in place.

MR. KELLOGG: Do you have these?

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

MR. KELLOGG: In your opinion, has the drainage been substantial in the NE..the SE/4?

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

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

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

MR. THAMES: We object to this badgering and fishing. The witness has testified it is not possible for him to give a competent answer that he feels is responsible and he shouldn't be required to make estimates.

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

normal entrance of this evidence.

MR. KELLOGG: Has it been what you would..are you..do you have enough information to know whether or not it has been substantial?

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

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

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

MR. KELLOGG: Well then, in the SW/4 there has also been drainage, as you have testified in response to the inquiries by Mr. Roberts.

MR. RAGLAND: True.

MR. KELLOGG: From the wells to the South?

MR. RAGLAND: Yes.

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

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

MR. KELLOGG: The Wolfe well, in the quarter section that borders the SW/4.

MR. RAGLAND: That's true.

MR. KELLOGG: That Wolfe well has been in production for something over a year. Is that right? How long has it been there?

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

DR. NOBLE: The 20th of January.

MR. RAGLAND: 1-27?

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

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

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

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

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

MR. RAGLAND: They could be, yes.

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

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

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

MR. RAGLAND: I don't know.

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

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

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

MR. RAGLAND: Yes, several years ago.

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

MR. RAGLAND: True.

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

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

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

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

DR. NOBLE: Mr. Thames, the Commission will accept the exhibits of Mr. Ragland, taking into account the continuing objection of Cardinal.

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

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

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

MR. BAUER: Yes, I have.

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

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

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

it, the S/2 or the E/2. According to my calculations, North American Royalties and Louis W. Hill, Jr. own 65.8% of the working interest--the cost-bearing interest--in the spacing unit defined as the S/2 of 15. Cardinal Petroleum Company would own 15.9 interest. There are other working interest owners: Continental Oil Company, Houston-Hoffman, and Helmerich & Payne, as well as Joe Hiram Moore. In the E/2 of Section 15, the working interest--or cost-bearing ownership--should the spacing be that way, would be North American and its partner, Louis W. Hill 64½%, Cardinal Petroleum Company 31.9, and Joe Hiram Moore 3.5. So you can see that North American and its partner have the majority interest, cost-bearing wise, working interest wise in either spacing unit, and we feel that we're justified in being the operators of a well that was contemplated to be drilled on our property. We're not only lessees of minerals owned by other parties, but we are mineral fee owners in both the E/2 of the Section and the SW/4. I also felt at the time, from our geological interpretation at this time, that the proper spacing for this well.. the well in the SW SE of 15 should be the S/2 of the Section in the.. it is necessary in drilling these wells to contemplate the correlative rights of all of the parties in all of the land that we're discussing today. And certainly a lessee has a responsibility to his lessors--the royalty owners--to do the best job he can, to drill him the best oil well he can, to get him the best price, and to pro-

tect his correlative rights. I would like to point out at this time that we are here, North American Royalties, Inc., on behalf of other people that stand to gain or to lose much more in this spacing argument than will North American Royalties, Inc. The revenue interest for all of the owners in either one of these spacing units has been computed and we believe to the best degree of accuracy with regard to the S/2 of Section 15, North American Royalties, Inc. will have 35.7% of the production if it's spaced that way. With regard to the E/2 of 15, North American Royalties, Inc. will have 34.9. Actually, we're talking about less than 1% of the revenue for this well for North American if it's spaced the S/2 rather the E/2. We wouldn't spend the time or the effort to be in here arguing with one of our old partners over 1% interest, but we do have correlative rights of our lessors to protect. Our lessors cover the ownership of the E/2 alone as far as this section is concerned, and it was my opinion and my management decision to decide that we would not join in the drilling of a well as proposed by Cardinal in compassing the E/2 of Section 15 as it would be a violation of the correlative rights of the owners of the land in the SW/4 should we. It would possibly put our lessees in jeopardy as well. Therefore, I told Mr. Palmer in this telephone conversation, that we would not agree to the drilling of this well. I attempted, subsequently, to this time to negotiate--I stopped in Cardinal's office twice--some kind of an equitable solution to our

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

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

MR. BAUER: Yes, it was.

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

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

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

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

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

Josephine Kralicek, his wife, who is the surface owner of the SW/4 of 15 at this time, and he's here today to testify. In addition, it would take away any production from Helmerich & Payne, Inc., Houston-Hoffman, and Continental Oil Company. Percentage wise, I've calculated at this time, that North American Royalties, who has under the statute sent out to all the owners under the S/2 of 15 a voluntary communitization agreement, and has had a return of a certain number of these and a rejection of a certain number of these, that we have right now a revenue interest percentage as far as our application is concerned, for the S/2 of 78.9% of the revenue interest signed up for our way of spacing. For the E/2, I can only calculate from the figures that I have on the interest that we have had signed up, that Cardinal Petroleum Company, with regard to their communitization effort on the E/2 would have 35.49% revenue interest signed up. With regard to the working interest or cost-bearing share of the signed up voluntary owners, the percentage on the S/2 of Section 15 is 71.7% agreeing to the S/2. And with regard again to the E/2, our figure indicates that Cardinal would have signed up in their favor, 35.49. I wish to correct an error on my statement as far as the revenue interest signed by Cardinal in the E/2 of 15. It would be 41.5%. We have in our possession, copies of the communitization agreement, which we have sent out. We also have a copy of the letter dated June 16th, 1970, that I sent to

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

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

MR. BAUER: We are agreeable.

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

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

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

DR. NOBLE: You may proceed, please.

MR. BAUER: Thank you. "Dear Royalty Owners: Please find enclosed, two copies of communitization agreement covering the S/2 of Section 15, Township 140N., Range 96W., Stark County, North Dakota. The Shank well, located in the SW of the SE of Section 15, Township 140N., Range 96W., is now in the process of being completed as a producing, Heath Sand oil well. The Dickinson Field's 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/2 of Section 15, Township 140N., Range 96W., should be included within the 320-acre spacing unit for the well located in the SW of the SE of Section 15,

Township 140N., Range 96W. And 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 notorized and return the fully executed and acknowledged agreement to North American Royalties, Inc. and enclose addressed, stamped envelope. You may retain the other copy of the agreement for your file. Thank you, Very truly yours, North American Royalties, Inc. By Arthur C. Bauer."

MR. THAMES: Do you have a copy of the communitization agreement which you forwarded to those persons?

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

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

MR. BAUER: Right, yes.

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

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

fact, it is the copy that I signed on behalf of North American Royalties.

MR. THAMES: We offer Exhibit 14.

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

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

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

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

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

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

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

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

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

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

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

MR. DAVIDSON: Yes, I do.

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

MR. DAVIDSON: In your opinion...

MR. BAUER: My opinion is that in order to control the drilling of oil wells, the Geological Survey has a responsibility of knowing where wells are going to be drilled, who is going to drill the wells, whether this company has a bond as required by the statute, and that when an application is filed and the requirements of the regulation are fulfilled, that the Geological Survey has no decision-making powers at all--they have to grant the drilling application--this is a permit to drill, it is not a delineation of what correlative rights are and proper spacing, or title.

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

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

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

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

MR. DAVIDSON: But you would agree that the State Geologist determines to his satisfaction, the correlative rights prior to issuing the permit?

MR. BAUER: I think he acts in an emergency position, sir, because I think this duty rests with the Commission.

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

MR. BAUER: Yes, sir.

MR. DAVIDSON: Are you aware of anything under the statutes of the regulations of the North Dakota Industrial Commission in the state of North Dakota, that would place no limit on time of anyone challenging the issuance of a permit established in a spacing unit?

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

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

MR. DAVIDSON: You had lessors in the E/2 of Section 15, I believe you testified.

MR. BAUER: Yes.

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

MR. BAUER: Correct.

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

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

MR. DAVIDSON: Are you ready...

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

MR. DAVIDSON: You read into the record, in your communitization letter, and I'll ask you if in your opinion that communitization letter advised, on a spaced..advised the mineral interest owners in the E/2 of the fact that if they signed it, they would lose half of their interests.

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

MR. DAVIDSON: Did any of the lessors in the E/2 sign that communitization agreement?

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

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

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

MR. DAVIDSON: Did your communitization letter advise the mineral interest owners in the E/2 that the Shank well had been drilled by Cardinal at their cost and at no cost to you?

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

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

MR. BAUER: It said that well is now in the process of being completed as a producing Heath Sand well.

MR. DAVIDSON: By whom?

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

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

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

MR. DAVIDSON: No, the SE/4.

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

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

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

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

MR. DAVIDSON: (Unintelligible)

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

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

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

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

MR. BAUER: No, no.

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

MR. BAUER: That's their privilege.

MR. DAVIDSON: At their expense.

MR. BAUER: That's their privilege.

MR. DAVIDSON: And...

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

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

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

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

MR. BAUER: No, we do not.

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

MR. BAUER: Of the Jilek well..that, Continental Oil Company was the operator...

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

MR. BAUER: Yes, sir.

MR. DAVIDSON: And you're the operator?

MR. BAUER: We are the operator.

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

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

pays out, they'll get 25% interest.

MR. DAVIDSON: Has the well paid out?

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

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

MR. BAUER: I would judge in excess of 80,000 barrels, depending on the cost of the well, etc. So the well is potentially getting close to pay off.

MR. DAVIDSON: How much is it making?

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

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

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

MR. DAVIDSON: Then your answer is no?

MR. BAUER: Right.

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

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

Palmer.

DR. NOBLE: Yes. Go ahead.

MR. PALMER: Who initiated this telephone call?

MR. BAUER: You did.

MR. PALMER: Do you remember when it was?

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

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

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

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

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

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

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

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

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

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

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

Somebody testified.. stated that...

MR. PALMER: 15 days to think over my complaints about drainage on 15.

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

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

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

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

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

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

MR. KELLOGG: May I ask a few questions?

DR. NOBLE: Yes, Mr. Kellogg.

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

MR. BAUER: Vice-President.

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

MR. BAUER: Yes.

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

MR. BAUER: Yes, sir.

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

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

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

MR. BAUER: Yes.

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

MR. BAUER: Of all production?

MR. KELLOGG: Yes.

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

MR. KELLOGG: Yes.

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

MR. KELLOGG: About 35%?

MR. BAUER: Roughly 35%, yes.

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

DR. NOBLE: You did earlier.

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

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

MR. KELLOGG: Kellog g, representing the Shanks and Mr. Shank. That 35% interest included the.. you computed the Shank lease-hold in there? Right?

MR. BAUER: Yes. Yes, it has.

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

MR. BAUER: Absolutely. 100%.

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

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

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

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

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

MR. BAUER: No.

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

MR. BAUER: Right.

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

MR. BAUER: Right.

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

MR. BAUER: Right.

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

MR. BAUER: Right.

MR. KELLOGG: Is that your theory?

MR. BAUER: Yes.

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

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

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

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

MR. KELLOGG: Yes.

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

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

MR. BAUER: Right.

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

MR. BAUER: Right.

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

MR. BAUER: Yes, he did.

MR. KELLOGG: You don't have a record of the date of that conversation?

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

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

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

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

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

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

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

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

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

MR. BAUER: It contains everyone in the SW/2 , with the exception of a bit of a two parties that didn't send it in period.

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

MR. BAUER: Yes.

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

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

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

MR. BAUER: Oh yes. We could also have included three royalty owners that only own in the E/2.

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

MR. BAUER: 38½ or something like that.

MR. KELLOGG: Okay, that's all.

MR. DAVIDSON: Governor, in light of his answer to Mr. Kellogg's question, he said it included three that only owned in the E/2.

MR. BAUER: That's right.

MR. DAVIDSON: And are these any of the three that revoked their signatures?

MR. BAUER: No, no they're not.

MR. DAVIDSON: These three have not revoked their signatures?

MR. BAUER: Home State and Royalty Corporation, Home State Oil and Gas Company, and the First Trust Company of St. Paul.

MR. DAVIDSON: That's a trustee for some of the Hunt family, isn't it?

MR. BAUER: No, for Louis Hill's child.

MR. DAVIDSON: I mean from the Hill family, is that right?

MR. BAUER: Yes.

MR. DAVIDSON: And this is the same Hill that is your partner?

MR. BAUER: That's right.

MR. DAVIDSON: In the SW/4?

MR. BAUER: It's a trust, and the First Trust Company of St. Paul is the trustee.

MR. DAVIDSON: But everyone else either revoked or refused to sign it?

MR. BAUER: No, two oil corporations that own only in the E/2.

MR. DAVIDSON: Home State Royalty Corporation. I'm sorry.

MR. BAUER: Home State Royalty Corporation, Home State Oil and Gas. Not withstanding the fact that their production was cut in half.

GOVERNOR GUY: At this point, I'm going to ask that we recess until 1:00.

DR. NOBLE: Will you... do you have further questions, Mr. Davidson?

MR. DAVIDSON: Just a few questions. Mr. Bauer, as you have already testified that you are an attorney, and I'm going to ask you whether or not you've been on behalf of North American Royalties, contact the crude oil purchaser under the Shank well and advised them that they were or should withhold any payment by reason of the fact that you had filed this adverse application for spacing in the S/2 of the section.

MR. BAUER: I contacted Rock Island Oil Company.. of Koch Industries, who I had been advised was purchasing the crude oil from this well, and alerted them to the fact that there was a dispute as to the proper ownership of that oil, and requested that they hold the runs in suspense, pending the final outcome of this matter.

MR. DAVIDSON: So then, Mr. Bauer, isn't it a fair statement to say that as an attorney you have reached the conclusion, or the opinion that the filing of such an adverse application--or the possible filing of such an adverse application--throws such a cloud on the pay so as to not allow any producer subject to this possibility from ever obtaining any royalty interest or working interest of without some sort of final determination of the question?

MR. BAUER: No, not exactly, Mr. Davidson. I feel that I had a responsibility to my company and to all the lessors--the lessors that we have in the SW/4 of 15 as well as in the E/2 of 15--to hold the royalty in suspense and not have it improperly distributed until

there was a final ajudication of the property ownership as a result of proper spacing.

MR. DAVIDSON: Would your opinion have been the same had you not filed the application?

MR. BAUER: Yes.

MR. DAVIDSON: So, in other words, it could be suspended on that different item?

MR. BAUER: No, until there was a decision made--rendered. We have a responsibility to our lessors on a number of things--and one is that the proper amount of royalty to be distributed to them. Secondly, that the right price--the highest price that we can find for the crude oil--be paid to them. And these are two of the most important things that I considered in requesting the suspension of the well. It's not an unusual thing in the oil trade to ask for a suspension of royalty. I think...

MR. DAVIDSON: What if the E/2 had been voluntarily pooled?

MR. BAUER: If the E/2...

MR. DAVIDSON: Had been voluntarily pooled.

MR. BAUER: Yes?

MR. DAVIDSON: Do you feel that some mineral interest owner in the W/2 could have filed this application?

MR. BAUER: Yes, I feel that if it had been voluntarily pooled, we'd have a moot question as far as our case today. If everyone in the E/2 would have agreed to this matter, it's ah.. it really isn't

a question in point.

MR. DAVIDSON: My question to you is do you feel that in that situation if there had been someone in the W/2 who had no ownership in the E/2, that they could have had at any time, filed this very same application and suspended all payments?

MR. BAUER: I believe they could.

MR. DAVIDSON: Forever?

MR. BAUER: No, not forever. If they'd have brought a proceeding, whether it be in the Industrial Commission or before a court that...it is a law. I feel that they have the property rights just as much as North American has.

MR. DAVIDSON: How..how long should the producer then hold up to determine whether or not they should pay out this money?

MR. BAUER: You always are concerned with the titles--the valid title, and as I understand it, Cardinal distributes royalty based on 100% division order of their own and a letter of indemnity to the purchaser. Does that answer your question?

MR. DAVIDSON: Yes.

MR. BAUER: I would say until there is..you were in a safe position. Now the purchaser of the crude oil--which is Rock Island--this is their decision to make. I requested that they suspend royalty payments until this matter was decided. It is their decision to make.

MR. DAVIDSON: What if you hadn't filed the application, could

you have filed it in a year or two years, or three years, or how?

MR. BAUER: What Mr. Davidson, has taken place in a short time--a matter of a few weeks or months.

MR. DAVIDSON: But you agree that there is no statutory provision as to how long that the adverse owner would have the right to file the application?

MR. BAUER: I don't know of any statutory limitation, but there would be an estoppel created here, as you know, if you waited too long.

MR. DAVIDSON: An estoppel is a legal question, and has been.

MR. BAUER: You were asking me a legal question?

MR. DAVIDSON: But in an answer to that, an estoppel is a legal question.

MR. BAUER: Right.

MR. VANDEWALLE: Well, Mr. Davidson, even if North American Royalties hadn't filed an application, Cardinal would have had to, in this instance, would they not? Because they had..you have an example involuntary pooling and whether or not North American filed an application you would have had to file an application..

MR. DAVIDSON: Yes, and also brought out the situation where the E/2 had been voluntary pooled. Couldn't it not?

MR. VANDEWALLE: It might have, but the question that was presented was if--how long could someone in the E/2 do this--how long could they wait to file. Well, if you file an application with-

out North American Royalties, then their application for involuntary pooling was granted, wouldn't that be the end of it then?

MR. ROBERTS: It would not be involuntary pooling.

MR. VANDEWALLE: But we don't...what we're talking about is hypothetical, because you have the case on here because you... you do not have voluntary pooling..

GOVERNOR GUY: Can we move this case on a little bit faster, and not replow any of the same ground twice?

MR. KELLOGG: I have no further questions, but I would like to make a statement for the record--to the record--for the representation of the Shank...Mr. Shank..and ah..that is by appearing here, we do not acknowledge the validity of any of the claims by North American and the...that is not acknowledged and that we in fact, disclaimed that they have any valid reason of such interest.

MR. VANDEWALLE: Mr. Kellogg, you also agree, of course, that this Commission has no authority...

MR. KELLOGG: Yes, I just want to make the record clear that we are not acknowledging such interests here and...

MR. THAMES: One more question on direct examination of Mr. Bauer. Mr. Bauer, a great deal of questions have been asked of you relating to managing decision which you have made in relation to the correlative rights and the decisions to join or not join wells. What is the basis upon which you have made these management de-

cisions?

MR. BAUER: I..my decision...

MR. KELLOGG: I couldn't hear the last part of your question.

MR. THAMES: What is the basis upon which he has made these management decisions?

MR. BAUER: The basis of my management decision in this matter are a summation of what my staff--it isn't very large, it's composed of a geologist, and a consulting engineer and myself constitutes it, with some of our other people in our management section. That is the foundation of my decision and it comes down to this, very simply. That we could not support joining in a well where the spacing unit was going to be the E/2 of Section 15 when such a thing would, in our opinion--based on my geological engineering evaluation--result in attributing to the ownership of the NE/4, a portion of the production which they are not justified in having. This decision proceeds right on from the beginning on through the end. It was my decision. This proceeds from our efforts and is the same kind of information I base my decision on. The S/2 of Section 15 gives in an equitable manner--it can't reach perfection. An equitable distribution of reserves from all of Section 15 really..and that is the S/2 of the Section. No matter whom that was by.

MR. THAMES: No further questions, Mr. Bauer.

GOVERNOR GUY: Did you..did North American Royalties propose

to join with Cardinal in drilling the well if the S/2 of 15 had been the spacing unit?

MR. BAUER: Yes, sir. In the conversations I had with Hugh on March the 6th.

MR. VANDEWALLE: Mr. Bauer, you have implied that the answer that...yet assuming, which is the fact that you and Cardinal cannot reach an agreement, would you have filed an application to drill designating the S/2 as the spacing unit, and would you have drilled that well?

MR. BAUER: Yes, we would have been in contact with other working interest owners which were Helmerich & Payne, Houston-Hoffman, and Continental Oil Company, and statistically the F. E. D.'s, etc., if they joined us--voluntary joined us--in. But at the same time, the application to file a drilling permit was granted to Cardinal. The state could not give it to us--we talked about that.

DR. NOBLE: Are there further questions of the witness? If not, this witness may be excused. Do you have other witnesses, Mr. Thames?

MR. THAMES: One more witness, Mr. Joe Kralicek, a landowner under the SW/4 of Section 15. He has previously testified. Mr. Kralicek, would you spell your name please?

MR. KRALICEK: K-r-a-l-i-c-e-k.

MR. THAMES: Mr. Kralicek, do you own the surface and some of the mineral interests under the SW/4 of Section 15?

MR. KRALICEK: Yes, I do.

MR. THAMES: And do you have a statement to make to the Commission?

MR. KRALICEK: Yes.

MR. THAMES: Would you please tell the Commission.

MR. KRALICEK: Well, I also--before we go on, I also have an authorization here which authorizes me to speak in benefit of Frank Veverka. He was ill and wasn't able to come here. He owns the mineral interests in this quarter also.

DR. NOBLE: Would you repeat the last...just for the benefit of Mr. Davidson?

MR. KRALICEK: Yes, well, I'm authorized to represent Frank Veverka seeing he was ill and couldn't come down with me. He's the man I bought the land from and he withheld a certain amount of mineral interest in it, so I..when I talk for myself, I'm also talking for him.

DR. NOBLE: Is it V-e-v-e-r-k-a? Okay, you may proceed.

MR. KRALICEK: Seeing as...seeing as this Shank well is only 660 feet away from the Section 15--SW/4 which is definitely getting drained of a lot of the oil. The Wolfe well has been in production since January and this one is producing, like I said, 660 feet I imagine somebody said from my fence line, and this other NE/4 which we're talking about is actually about 1300 feet away, or something like that, roughly. And seeing as we have this 360-

acre spacing, I don't see why some of these people in the E/2 should actually double their production, where us here in the SW are actually right next to the well and who could possibly be left out altogether.

MR. VANDEWALLE: Ah.. who is your land under lease to?

MR. KRALICEK: North American Royalties.. my mineral interests are.

MR. THAMES: Are there any questions of Mr. Kralicek?

DR. NOBLE: The witness may be excused. Do you have any further witnesses, Mr. Thames?

MR. THAMES: We rest. We would make a closing statement, but perhaps it should be reserved until the other side has made their presentation.

DR. NOBLE: Okay, we will give you the opportunity.

MR. THAMES: Thank you, sir.

DR. NOBLE: Other testimony in Cases No. 1004 or 1005?

MR. DAVIDSON: We call on Mr. Hugh Palmer, please. State your name, and address and present employment.

MR. PALMER: I'm Hugh Palmer, Billings, Montana. Cardinal Petroleum Company.

MR. DAVIDSON: And in what capacity?

MR. PALMER: President.

MR. DAVIDSON: And are you also a managing officer of the Company?

MR. PALMER: Yes, sir.

MR. DAVIDSON: Were you present in the courtroom when Mr. Art Bauer testified as to a conversation on March 6th, of 1970?

MR. PALMER: I was.

MR. DAVIDSON: And who placed that phone call?

MR. PALMER: I placed the phone call to Art.

MR. DAVIDSON: From Billings?

MR. PALMER: From Billings.

MR. DAVIDSON: To where?

MR. PALMER: To Bismarck, on March 6th.

MR. DAVIDSON: Did...did you agree with Mr. Bauer's interpretation of that phone call?

MR. PALMER: Not entirely, no.

MR. DAVIDSON: What was said to you and what did you say in return?

MR. PALMER: I called Mr. Bauer when geological engineers brought me a report showing that the well--the Wolfe well--was producing 600 barrels of oil a day and had been for 45 days. And I called Mr. Bauer to see what his intentions was in Section 15. I asked him to run the spacing North and South in Section 15 and he said he wasn't ready to drill, but when he was, but when he was, he'd run it east and west. And I said well, we'll cut our interests down and he said that's correct. And I said well, in that particular case, we may have to let you carry us, we'd only

have 15%, but when you're ready, you let us know. And he said.. I said..you're draining it now. And he said that's your problem. So I waited two weeks for him to make a move--he could have went in, spaced it, he had acres in the SE/4. He could have permitted that well and run it East and West. It was permitted in the S/2. I gave him two weeks to make his mind up--he didn't make it up, I took steps to correct the problem, that he said I had.

MR. DAVIDSON: And what was that problem?

MR. PALMER: To run it North and South and Cardinal put up all the money.

MR. DAVIDSON: And Cardinal drilled the well.

MR. PALMER: And we put up about 96% of the money and only own about 35% of the property, because our geologists said it would produce; our engineers said it would produce, and it was just that simple. We took the risk; we drilled the well.

MR. DAVIDSON: And, I assume that the results of your drilling operation supported..

MR. PALMER: Correct. And at that time..by the time we got around to permit it and then drill the well and get on production, they had produced some...in excess of some 100,000 dollars worth of oil out of the Wolfe well, and we also have an obligation to our lessors.

MR. DAVIDSON: And are you here fulfilling that obligation?

MR. PALMER: That's exactly right.

MR. DAVIDSON: I have no further questions.

MR. THAMES: No questions.

DR. NOBLE: No questions.

GOVERNOR GUY: I would ask Mr. Palmer..you've spoken of the Wolfe well draining oil from Section 15. In view of the location of the Wolfe well, do you think the major drainage has taken place from the SW/4 of 15 or the SE/4 of 15?

MR. PALMER: According to our geological maps and stuff, we was basing our..I'd say it's about equal.

GOVERNOR GUY: But you would say...you would say that the distance between the Wolfe well and the SW/4 is shorter than the distance between the Wolfe well and the Cardinal #15 in the SE/4?

MR. PALMER: Correct, but Cardinal had no obligation to protect the lessor in the SW of 15.

GOVERNOR GUY: But, would you say that..what would cause you to say that the drainage in the SE/4 would be as great as that in the SW/4?

MR. PALMER: I think our geological interpretation of the area would like to bear that out.

GOVERNOR GUY: In other words, distance is not a factor from...

MR. PALMER: No, I'm...I'm convinced, and I think most people are convinced that the drainage pattern is wide in that particular formation--probably much wider than 320 acres.

GOVERNOR GUY: There will be two wells draining all of SW 15, isn't that correct?

MR. PALMER: We have an application to drill in the NW of 15 and space the SW of 15 with it, which would protect the correlative rights of the SW of 15 and we hope that North American would join us in drilling that well. This well has been permitted, staked, and as soon as they decide what they want to do, we're ready to put our money up because evidently...

GOVERNOR GUY: Would..would you be willing to continue with the permitted location in the NW/4 of 15 if the spacing unit runs East and West?

MR. PALMER: Ah..we would..we think it would produce. We don't have any doubt in our mind of what it will produce, but the fact is--the thing that would disturb me is that we have put up all the capitol investment. We put up 100%--or almost 100% of the money that nobody else would drill. We took all the risk out of the whole area because from testimony, it's evident that their geologist didn't think that location would produce. But, Dickinson has..has continued to do the same thing--it stops, and then some idiot would drill a well out a ways and here comes the oil again. So then you have to go start again, so then you drill another bunch of contours and somebody will jump up and do it again, and I don't know where the Dickinson field is going to stop. It may stop at the river up there. We have ah..Governor, we have taken..we've

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put up our money--we've put up all the money. There was no way to get the well drilled without us putting up almost all the money, and if that would have been a dry hole, we were gambling about 65,000 bucks that it would make oil, and nobody else would do it, or didn't do it. Now, I'm..I'm--this is only my personal opinion--I suspect that ah..if North American hadn't had the Wolfe well, they might have taken a different look, and their maps may have been a little different.

GOVERNOR GUY: Now the development of this area, which includes four wells all within a mile of one another, is..is considerably more rapid than is usual in an oil find, isn't that right? Now there are four wells that have been drilled in 1970--all in a mile, which is quite rapid development, isn't that the truth?

MR. PALMER: I think the East side of Dickinson--once it started stepping out, developed that fast. And I know this, that if Cardinal would have owned some of that acreage, it would have developed faster than it did.

DR. NOBLE: Are there further questions of Mr. Palmer?

MR. VANDEWALLE: I have one. Mr. Palmer, with regard to the proposed ah..well in the NW of 15, if the Commission determines that the spacing unit should be the E/2 and if North American Royalties refuses to join in the drilling of the well in the NW/4, do you still propose to go ahead and drill?

MR. PALMER: We'll put up all the money and drill the well.

That's how much we think it'll produce. North American--if they refuse, just like they wouldn't put up any money on the one we've got--we'll put it all up again; we're in the oil business, and we cannot make any money without crude oil. There is no other way to make money unless you get crude oil.

DR. NOBLE: Does anyone else wish to question the witness?

MR. THAMES: Mr. Palmer, who did the development? Who drilled most of the wells in this part of the field?

MR. PALMER: North American Royalties and Continental Oil.

MR. THAMES: Thank you.

GOVERNOR GUY: Any further questions? You may be excused. Yes, go ahead.

MR. DAVIDSON: State your name.

MR. ROBERTS: Donald K. Roberts, Billings, Montana.

MR. DAVIDSON: By whom are you employed?

MR. ROBERTS: Employed by Cardinal Petroleum Company.

MR. DAVIDSON: In what capacity?

MR. ROBERTS: As an Attorney and Manager of the Land Department.

MR. DAVIDSON: What is your educational background?

MR. ROBERTS: I have a BS Degree in Geological Engineering, an MS in Petroleum Engineering and a Law Degree.

MR. DAVIDSON: Are you familiar with the location of the Dickinson Field?

MR. ROBERTS: Yes, sir.

MR. DAVIDSON: And have you prepared a map showing the Dickinson Field and the West-Dickinson Field?

MR. ROBERTS: Yes, sir. If we could very briefly--yes, sir, this is a land presentation that North American Royalties presented which may be of interest to the Commission. What it does show is the delineation of the Dickinson and West-Dickinson Field, which is spaced on 320-acre spacing, and then the area which includes the Shank well Zone 2 of Dickinson Field, which is spaced on 320-acre spacing. We have also shown on the exhibit the present pattern of spacing units as you see from the 320-acre spacing unit that do exist both in West-Dickinson and Dickinson. There is no particular delineation--some of them run North/South and some of them run East/West. Our well--the well here in question today, is located here in the SW SE of Section 15. Also shown on the map are the two locations, permits for which have been approved by the State Geologist to Cardinal Petroleum Company. And here is the Wolfe well--North American's Wolfe well--located in the SW NW of Section 22.

MR. DAVIDSON: Mr. Roberts, did Cardinal Petroleum Company make an application before the confrontation of the State Geologist?

MR. ROBERTS: Yes, sir, on March 25th, 1970, after the conversation that has been previously discussed here this afternoon with North American, Cardinal's decision was that to protect its

lessors and its interests that something had to be done to prevent drainage in Section 15, so it was our decision to make application for a drilling permit and to drill a well in the SW SE of Section 15. That permit was filed on March 25th, 1970. The application designated the E/2 of that section as the spacing unit; the permit was approved and issued on March 30th, 1970, by Edwin A. Noble, State Geologist.

MR. DAVIDSON: Do you have copies of those...that application to be marked as Exhibit 2?

MR. ROBERTS: That's correct.

MR. DAVIDSON: Did you--have you prepared an exhibit on the mineral and leasehold interests in the E/2 of Section 15?

MR. ROBERTS: Yes, sir.

MR. DAVIDSON: Is that marked as Exhibit 3?

MR. ROBERTS: Yes, it is.

MR. DAVIDSON: And have you prepared an exhibit showing the mineral and leasehold interests in the W/2 of Section 15?

MR. ROBERTS: Yes, sir, I have.

MR. DAVIDSON: And is that marked as Exhibit 4?

MR. ROBERTS: That's correct.

MR. DAVIDSON: I note on Exhibit 3 you have made an asterik next to the name of E. E. Rakowski and Jacob Shank and Kathryn Shank as joint tenants.

MR. ROBERTS: That's correct, that is in there because we were

notified by Mr. Shank and Mr. Rakowski very recently that there's a dispute, apparently, as to whether or not those leases to North American are still in full force and effect. The lessors consider that these leases have terminated, and we were given notice--served notices--as the operator of the well.

MR. DAVIDSON: Now return again to Exhibit 3. Does your exhibit show that there is a common ownership of minerals in the E/2?

MR. ROBERTS: Yes, it does. They are badly divided, but Section.. the E/2 of Section 15, is common mineral ownership, which is one reason that we felt an obligation to make the spacing unit for that well the E/2 of Section 15. There is no one in the E/2 of Section 15 who owns minerals in the W/2 of Section 15 with the exception of North American Royalties.

MR. DAVIDSON: Why was Cardinal prepared to drill a well in the SW/4 of the SE/4 of Section 15?

MR. ROBERTS: I think, as Mr. Palmer has pointed out, the development of the Dickinson Field towards the NE since January, North American completed the Wolfe, which is producing in excess of 600 barrels of oil per day; Continental Oil Company has completed the Jilek well in the SW NW of Section 23, which is producing around 400 barrels a day. The Wolfe well went on production in January of 1970. Being in the oil and gas exploration business, we felt that it was logical that a well should be drilled

in Section 15. It's a step-out to production, and if you're going to look for oil and gas, that's something you're going to do is drill the location here. As Mr. Palmer testified, we attempted to get the other working interest owners to cooperate with us and jointly drilling a well in Section 15. We were unsuccessful. We felt that serious drainage was occurring to all lessors and to all leasehold interests and the decision was made, we decided we couldn't wait any longer; we made the decision that if nobody would go with us, we'd take all risks ourselves, with J. Hiram Moore concurred in our recommendation, and these two parties drilled the Shank well. The.. to show you the seriousness of what had taken place by March 6th, which is the date that Mr. Palmer called Mr. Bauer; the Wolfe well had produced 21,000 barrels of oil; by the time we obtained our permit, which was on March 31, 1970, the Wolfe well had produced 37,000 barrels of oil; and by the time that Cardinal, in June, got their well on production, the Shank well--the North American Wolfe well--had produced 82,000 barrels of oil, and I understand now from their exhibit it's produced over a 100,000 barrels of oil and we heard testimony to the effective that pay out is somewhere around 80 or 90,000 barrels of oil. So the Wolfe well essentially had paid out before Cardinal got their well on production.

MR. DAVIDSON: Did you request participation in the Shank well prior to drilling?

MR. ROBERTS: Yes, sir, we did. In addition--

MR. DAVIDSON: In what manner did you request participation?

MR. ROBERTS: In addition to the telephone conversation that Mr. Palmer spoke of, we on April 14, 1970, requested that the other working interest owners in the E/2 of Section 15, in writing, join us in the drilling of a well with the spacing unit the E/2 of Section 15.

MR. DAVIDSON: And to whom was that letter addressed?

MR. ROBERTS: It was addressed to North American Royalties and Louis W. Hill.

MR. DAVIDSON: Do you have that in the form of an exhibit?

MR. ROBERTS: Yes, sir.

MR. DAVIDSON: What is the Exhibit number?

MR. ROBERTS: Exhibit #5.

MR. DAVIDSON: Did you receive a response to this request?

MR. ROBERTS: Yes, sir, we did.

MR. DAVIDSON: And ah..in what manner was the response?

MR. ROBERTS: Ah..on April 17th, we received a letter from Arthur C. Bauer, in wh ich he stated that he was not agreeable to our proposal with the spacing unit being the E/2..he pointed out North American and Louis Hill's interests as to the S/2 and E/2 of Section 15. He said for this reason, it would be to the advantage of North American to space this well in the S/2 of Section 15, and he declined to join in our proposal for a well to be drilled in

that location with the spacing unit the E/2.

MR. THAMES: Would you read the rest of the letter please?

MR. ROBERTS: The whole letter too?

MR. THAMES: After he declines.

MR. ROBERTS: "I am of course interested in doing the best I can for our company, and realize you are interested on behalf of Cardinal, but we strongly feel the equities of this situation require that the oil underlying the SW/4 of 15 should be included within the spacing unit being drained by a well in the SW SE of 15. It is our feeling the NE/4 of 15 should be joined to the NW/4 of 15 where the 320 acre unit of production for a well located in the SW NW of 15. We would also insist that North American Royalties be the operator of the wells to be drilled in the SW SE of 15 and if a well is drilled in the SW NW of 15 and in the SW NW of 14, North American Royalties also be the operator of these wells. We will await your reply.

MR. DAVIDSON: Did you receive a response from Mr. Hill?

MR. ROBERTS: Yes, sir.

MR. DAVIDSON: In what manner?

MR. ROBERTS: A letter dated April 21st. He says, as you will remember I'm closely associated with North American Royalties of Bismarck. He said that he agreed with North American that for his interest, he would definitely prefer the basis for spacing be the S/2 instead of the E/2.

MR. DAVIDSON: Do you have that in the form of an exhibit?

MR. ROBERTS: Exhibit #7.

MR. DAVIDSON: Did you, at any time again, request participation by North American Royalties and Mr. Hill?

MR. ROBERTS: Yes, sir.

MR. DAVIDSON: At what point?

MR. ROBERTS: May 8th, 1970, by telegram to Mr. Bauer and Mr. Hill, we again requested that they join us in the drilling of a well in the SW SE of 15, with Cardinal as the operator. We were,at that time, rigging up and planned to commence drilling operations the first of the week.

MR. DAVIDSON: And is that in the form of an exhibit?

MR. ROBERTS: Exhibit #8.

MR. DAVIDSON: Did you receive a response?

MR. ROBERTS: Yes, sir. We received a letter from Mr. Bauer on May 11, 1970, acknowledging our telegram.

MR. THAMES: Read it all.

MR. ROBERTS: The whole letter? "I wish to acknowledge the receipt of your telegram of May 8th, 1970, requesting that we join in drilling a Tyler Test in the SW SE of 15, 140-96, Stark County, North Dakota, with Cardinal as operator with the spacing unit for such wells be the E/2 of 15. As you know, I was out of the office the day that the telegram was received, and this is my first opportunity to answer. I talked with Louis W. Hill on the

telephone this morning, and wish to advise you that we have not changed our position with regard to the drilling of the subject well. We strongly reaffirm the position that we took in my letter of April 17th, 1970--the spacing unit for the subject well should be the S/2 of 15, in order to protect the correlative rights of all parties and in addition, North American Royalties should be the operator of the well. We urge that you do not commence drilling operations until a mutual understanding has been arrived at between all parties."

MR. DAVIDSON: And did you receive a response---is that marked as Exhibit 9?

MR. ROBERTS: That is Exhibit 9.

MR. DAVIDSON: And did you receive a response from Mr. Hill?

MR. ROBERTS: Yes, sir. May 11, 1970. Do you want me to read all of this one too? I--this is from Mr. Louis W. Hill. "I have your wire of May 8, 1970, again requesting my approval to join Cardinal in drilling the Tyler Test in the area described above. In my letter to you, dated April 21, 1970, I outlined my preference in this matter and I am sorry that I have had no reason to change my mind since. Mr. Arthur Bauer of North American Royalties is sending you a wire today restating their position. I have discussed this with Mr. Bauer and you can accept this telegram--his telegram--as speaking for me also."

MR. DAVIDSON: Did you ever receive that telegram?

MR. ROBERTS: No.

MR. DAVIDSON: Did you submit a similar request from other working interest owners?

MR. ROBERTS: The only other working interest owner was J. Hiram Moore.

MR. DAVIDSON: And did you submit a similar request to him?

MR. ROBERTS: Yes, sir, we did, with a letter and an AFE, which was approved on April 22nd, 1970.

MR. DAVIDSON: And is that in the form of an exhibit?

MR. ROBERTS: Exhibit #11.

MR. DAVIDSON: Did North American or Mr. Hill, who refused to participate, have an interest in another production in the area?

MR. ROBERTS: Yes, sir, they did.

MR. DAVIDSON: And..describe that.

MR. ROBERTS: As I pointed out before, they have a substantial interest--I think Mr. Bauer testified 50%--in the Wolfe well, located in the SW NW of Section 22.

MR. DAVIDSON: And do you agree with the previous testimony that..that well was draining both to the SW and SE of Section 15?

MR. ROBERTS: Yes, sir, I would.

MR. DAVIDSON: I assume that you commenced to drill the well.

MR. ROBERTS: We commenced drilling the well on the 18th of May..we would have commenced sooner, but that was the 4 or 5 inches of rain in Dickinson at that time. The well was drilled and

completed in early June.

MR. DAVIDSON: During the process of drilling, did you provide North American Royalties with information concerning the well?

MR. ROBERTS: Yes, sir.

MR. DAVIDSON: What did you provide?

MR. ROBERTS: Daily drilling reports.

MR. DAVIDSON: What is the current production on the Shank well?

MR. ROBERTS: 400 barrels a day.

MR. DAVIDSON: Now, since you have obtained production, have you requested that the mineral owners in the E/2 of Section 15 give application to designate the E/2 as the spacing unit?

MR. ROBERTS: Yes, sir, we have.

MR. DAVIDSON: And have you put those replies in the form of an exhibit?

MR. ROBERTS: Yes, sir. It's Exhibit #12. By our last calculation, we had the support of 80%--80plus % of the mineral owners in the E/2 of Section 15. Essentially, the only mineral owners who are not supporting us that we know of are North American Royalties, the Hill Trust and Home State Royalty Company.

MR. DAVIDSON: By the way, were you in the hearing room this morning when Mr. Bauer testified that...we'll just wait for that question for the time being. At any time, Mr. Roberts, did you... did you know whether or not North American and Hill--Mr. Hill--

agreed to pay their part of the cost and drill a well designating the S/2 of Section 15 as a spacing unit?

MR. ROBERTS: Not to my knowledge.

MR. DAVIDSON: Were you in the hearing room this morning and you heard Mr. Art Bauer testify as to the fact that the Louis Hill Trust and Home State in ah... in the mineral interest owners in the E/2 had signed their.. North American Royalties' communitization agreement?

MR. ROBERTS: I was.

MR. DAVIDSON: And did you receive a response or did you inquire of Home State to support you in your application to designate the E/2?

MR. ROBERTS: Yes, sir, we did. I might add that Cardinal did not sent for execution a communitization agreement as such, we thought it might be a little premature. What we did was send a letter to all the interest owners explaining the situation as it existed--the dispute that was involved and asked them to support our application.

MR. DAVIDSON: Did you receive a reply from Home State concerning your request?

MR. ROBERTS: Yes, sir, we did.

MR. DAVIDSON: And in what form?

MR. ROBERTS: A letter addressed by O. Strother Simpson, the President of the Company, in which he acknowledged receipt of

our letter in which, in regard of the above captioned application.

MR. THAMES: Read it all.

MR. ROBERTS: "We acknowledge receipt of the copy of your letter of June 22nd to the North Dakota Industrial Commission in regard to the above captioned application, which is a spacing unit for the E/2 of 15, and your letters of like date to mineral owners in the E/2 of Section 15, explaining that before drilling the producing well in the SW SE of Section 15, you made application to the North Dakota Industrial Commission to drill thereon designating the E/2 as the spacing unit and that such application was approved. We did not know this yesterday when we received from North American Royalties, Inc. a communitization agreement pooling and communitizing the minerals under the S/2 of Section 15. Being unaware of the facts set out in your letter yesterday, we signed and returned to North American Royalties, Inc. the communitization agreement that they submitted to us. It is apparent, as you point out, that if the spacing unit for the well you have drilled is established to the South--as the South half rather than the East half, as your request, the interest to the undersigned companies in the well would be cut in half and we would, of course, be prejudiced by this. We, and North American Royalties have been good friends for many years and we would be unwilling to take any action that might jeopardize these good relations. Thus, for these reasons, we believe we are forced to stand by the com-

munitization agreement that we signed for North American Royalties and not oppose them in this proceedings, regardless of the prejudice we may suffer there from."

MR. DAVIDSON: We ask that this letter be marked as an exhibit. It will be, I believe it will be Exhibit #27. This..if the application of North American Royalties is granted, have you reviewed the effect this would have on the mineral interest owners in the E/2?

MR. ROBERTS: Yes, sir, they'd be cut in half, with the exception of North American, who owns minerals and working interests in both the SW/2 and the E/2.

MR. DAVIDSON: Does Cardinal Petroleum have an interest in the W/2 of Section 15?

MR. ROBERTS: Yes, sir, we do.

MR. DAVIDSON: How did you acquire that?

MR. ROBERTS: We have under oil and gas lease, the NW/4 of Section 15--this lease was acquired on July 29th, 1970, after the expiration date of the previous oil and gas lease on this property.

MR. DAVIDSON: Who was the prior owner of that lease?

MR. ROBERTS: North American Royalties.

MR. DAVIDSON: And why is that?

MR. ROBERTS: Its primary term of ten years ran out.

MR. DAVIDSON: Why did you obtain the lease?

MR. ROBERTS: We obtained the lease...Mr. Harrison's geolog-

ic testimony will show this much greater advantage, which you have a 400 barrel a day well here, a 600 barrel a day well here, you have the Dickinson oil field which his testimony will show as open end to the NE. It was our geologist and engineers' recommendation that that was valuable acreage to have and was potentially productive.

MR. DAVIDSON: Did you get an application for a drilling permit?

MR. ROBERTS: Yes, sir, we have.

MR. DAVIDSON: And on that application, did you designate a spacing unit?

MR. ROBERTS: We designated the W/2 of Section 15 as the spacing unit with the location to be the SW NW of 15. The other permitted location in Section 15.

MR. DAVIDSON: Was that permit granted?

MR. ROBERTS: That permit was granted--the application was filed on July 19th, 1970--the permit was granted by the State Geologist on August 3rd of this year.

MR. DAVIDSON: And did you mark that as an exhibit?

MR. ROBERTS: That's exhibit #13.

MR. DAVIDSON: And you made the application at that time?

MR. ROBERTS: That's right.

MR. DAVIDSON: Have you requested participation of the other working interest owners in this well?

MR. ROBERTS: Yes, sir, we have. We..the working interest

owners in Section--in the W/2 of Section 15, according to our records, consists of Mr. Hill, North American Royalties, Continental Oil Company, Helmerich & Payne, and Houston-Hoffman. We wrote to all of these parties on August 5th, 1970, proposing that a well be drilled in the SW NW of Section 15. We sent with this letter that all parties join in and drill the well..we sent with this letter an AFE, and also suggested accounting procedure to cover operations, asking that everybody voluntarily pool and that the well be drilled.

MR. DAVIDSON: Is that in the form of an exhibit please, Mr. Roberts?

MR. ROBERTS: That's Exhibit #14.

MR. DAVIDSON: Ah..have you received any response to these requests?

MR. ROBERTS: We have, since August 5th--the day we sent the letter--received three responses. A response dated August 11, 1970 from North American Royalties, which they acknowledged receipt of our letter. Do you want me to read it all? "We, on receipt of your letter dated August 5th, 1970, with attached authorization for expenditure covering the drilling of the captioned proposed well, which is the Kadrmas well in the SW NW of 15. We note from your letter that you propose the spacing unit for this well to be the W/2 of Section 15. In view of the fact that the proper spacing for the 15-15 Shank well, completed in the SW SE of

15, has not been determined and will not be determined until after the August 20th, 1970 Industrial Commission Hearing, North American Royalties feels that it is premature to consider the drilling of a well in the SW NW of Section 15."

MR. DAVIDSON: Did you mark that as an exhibit?

MR. ROBERTS: The three responses collectively, are Exhibit 15. We received a response from Continental Oil Company, who has approximately 2% interest in the W/2 of 15. Mr. William Blackburn, dated August 10, 1970. "We have received your AFE to drill a Tyler Sand test in the SW NW of Section 15, 140-96, Stark County, North Dakota. We are going to withhold approval of this AFE, pending the outcome of the hearing on the subject section scheduled for August 20th, in Bismarck. We will be in a position to give you our decision on this proposal very shortly after the order finalizing the spaced area for the well in the E/2 of Section 15 has been made public." One additional response from Louis W. Hill, Jr. dated August 12th. "In your letter dated August 5th, you indicated that Cardinal proposed to drill a Tyler Sand test in the SW NW of 15, 140-96, and that the spacing unit will consist of the W/2 of 15. I do not feel that I can approve of a pooling agreement or a drilling unit at a time when there's a controversy over the spacing involved in the Shank well. As you know, I favor spacing in the S/2 rather than the E/2. In addition to the information I have, it appears that the area selected for the Tyler Sand

test SW NW of 15 is not a desirable one. I understand the question of spacing for the Shank well will be considered by the Industrial Commission on August 20, and I will be interested in its decision."

We have heard no response from either Helmerich & Payne or Houston-Hoffman.

MR. DAVIDSON: Has Cardinal prepared an accounting procedure for operating the well in the SW SE of 15?

MR. ROBERTS: Yes, sir, as...one the obligations in forced pooling is to prepare costs and operations can be charged so that the participating interest owners can recover out of production their costs and also the equitible share of the costs with a non-participating owner. For this purpose, we have prepared an accounting procedure with which we would like the Commission to approve, which would be the accounting procedure which would cover our operations in the 15-15 Shank well.

MR. DAVIDSON: Where did you obtain these procedures?

MR. ROBERTS: This is a standard form Copas 1962-Joint Operating Agreement Accounting Procedure. The figures contain therein the operating charges are based upon an operating agreement covering the Freed well in the S/2 of Section 16, in which Cardinal was a party and which North American was the operator. The figures are identical.

MR. DAVIDSON: Have you prepared that in the form of an exhibit?

MR. ROBERTS: Yes, sir, that's Exhibit #16.

MR. DAVIDSON: Do you trust that Mr. Thames made an important statement this morning?

MR. ROBERTS: Yes, sir.

MR. DAVIDSON: As an attorney and as a Petroleum Engineer, would you agree with his statement that a drilling permit does not mean anything except the right to drill a well?

MR. ROBERTS: No sir, I would not. I think that the Commission has adopted regulations..has--

MR. DAVIDSON: Mr. Roberts, my last question was whether or not you agreed with Mr. Thames' statement that a drilling permit does not mean anything except the right to drill a well.

MR. ROBERTS: No, I don't. A drilling permit must mean something more--this Commission would not have such things as Rules 102, would not have included in their regulations specific rules that must be followed in completing a drilling permit as contained on the instructions of the Form 1 which you must fill in and one thing that you must do it says, if there's more than 40 acres in the drill site, you have to designate the spacing unit for the well. That's in there for a reason. I think it's in there to establish what the spacing unit is going to be for the well you're drilling.

MR. DAVIDSON: Would it make any difference to your company if you couldn't rely upon that spacing unit making an economic de-

cision to drill an oil well?

MR. ROBERTS: If every time you were on rectangular spacing--which would be either 80's or 320's--and you have obtained a drilling permit approved by the State Geologist, there will certainly be a serious question as to what really did you have, whether you could go ahead and drill a well and then wait for a coll...a collateral attack upon that permit by some stranger off to the side, so I think you've almost reached the point that you may have to have a hearing and make sure that nobody's going to interfere outside of what you've designated as the spacing unit before you could ever proceed to drill a well in the state of North Dakota where you have rectangular spacing.

MR. DAVIDSON: And once again, referring to Counsel Wilkin's statement, would you agree with that portion that says that Cardinal has only minority interests in the E/2?

MR. ROBERTS: We have a minority working interest--we have 32% --35% with Mr. Moore. We have the support of nearly all of the mineral interest owners in the E/2 of Section 15, with those exceptions as I previously pointed out--North American Royalties, the Hill Trust, and Home State.

MR. DAVIDSON: You may cross-examine.

MR. THAMES: Does J. Hiram Moore, according to your records, own interests in other than the E/2 as far as the spacing unit is concerned? Does J. Hiram Moore own mineral interests in other

than the E/2 of Section 15?

MR. ROBERTS: Anything else in Section 15?

MR. THAMES: Right.

MR. ROBERTS: No, not as far as our records show.

MR. THAMES: Mr. Roberts, you stated that the production from this well--the Shank well--is now approximately at 400 barrels a day, is this correct?

MR. ROBERTS: It's true.

MR. THAMES: And that it commenced its production some two to three months ago at 648 barrels of oil per day?

MR. ROBERTS: No, I said the Wolfe well was producing 600 barrels a day.

MR. THAMES: What was the Shank well completed for initially?

MR. ROBERTS: Initial production of the Shank well I think was 450 after two days.

MR. THAMES: And the production has declined 50 barrels a day, more or less, within how many days of production?

MR. ROBERTS: Oh, it's been on production 60 days.

MR. THAMES: Now, you're a graduate Petroleum Engineer, are you not?

MR. ROBERTS: That's true.

MR. THAMES: Then you gave in your testimony your opinion as to drainage back and forth--are you familiar with the Horner Technique?

MR. ROBERTS: Yes, sir.

MR. THAMES: Are you familiar that this technique can be applied on a draw-down calculation as well as a pressure-build-up calculation?

MR. ROBERTS: That's true.

MR. THAMES: And would this..would not this rapid decline indicate a barrier condition somewhere reasonable close?

MR. ROBERTS: No, sir.

MR. THAMES: On how do you base that?

MR. ROBERTS: I think if you look at any well on the Dickinson Field, the first few days of production--or first few weeks of production--you get a decline down to what the well will level off at. I don't think the decline rate--and I haven't studied these in detail--in our Shank well is any greater than any other producing well in Dickinson. I'm sure Mr. Voorhees, who has studied these in more detail, can answer that question better than I.

MR. THAMES: It's my understanding, based upon information which Cardinal supplied to the North Dakota Geological Survey, that the initial production was 648 barrels a day.

MR. ROBERTS: That must have been for a very brief period. It's been producing 400 or 450---

MR. PALMER: Let me answer that question if you don't mind. Under your regulations in North Dakota, you've got--you've got to file an initial production before you can move any oil from the

lease, which forces you can file a production report that it is not true to well at all because you have to run it on a swab test and that's part of your regulations...you must file a report--a completion report--to the State Geologist before you can move any oil from the lease. Therefore, you must run it on a swab guage or something that is not actually suited to the best and that's any well in the state, not only this one.

MR. THAMES: Have you filed the 30-day final report that's required--the 30-day production report?

MR. ROBERTS: I think you should ask Mr. Voorhees that question.

MR. THAMES: I derived from your testimony--and please correct me if I don't understand it--that you never have formulated--yet attempted--a voluntary pooling of the E/2 by actually sending to all of the parties a communitization agreement for their signature, is this correct?

MR. ROBERTS: It would be an effort in futility, as we both know.

MR. THAMES: But you have not done this formality?

MR. ROBERTS: No.

MR. THAMES: Now if the Commission should find that the spacing was the S/2 of 15, on the basis of your testimony, would you recommend drilling a well in the SW NW of 15?

MR. ROBERTS: That would take a great deal of study, I think Mr. Palmer indicated partially the answer to that.

MR. THAMES: When did Cardinal obtain the lease on the NW of 15?

MR. ROBERTS: The NW of 15? The lease was effective July 29th.

MR. THAMES: And when was contact made, if the lease was not effective on the day it was drawn?

MR. ROBERTS: About a week before.

GOVERNOR GUY: You'll have to speak louder...

MR. ROBERTS: About a week before.

GOVERNOR GUY: You're getting so low that we can't hear anything but a mumble down there.

MR. THAMES: Did Cardinal own any interests in the NW of 15 at the time the Shank well was drilled?

MR. ROBERTS: No, sir.

MR. THAMES: No further questions.

MR. KELLOGG: May I ask several questions? Mr. Roberts, did you hear Mr. Bauer's testimony that he wasn't aware of any time limit or statute on which the application was made--to change the spacing unit?

MR. ROBERTS: Right.

MR. KELLOGG: Do you recall that testimony? You also recall in his testimony that in his opinion, the person in the SW/4 of 15 would not involve as in the E/2 would have a right to change in these proceedings.

MR. ROBERTS: That's true. That's right.

MR. KELLOGG: Do you remember that? Now, if there is no limit, and if such a person has a right under the statutes to bring such proceedings at any time, what affect would that have on the development and production of oil from the standpoint of the operator who has to pay out the royalty? What problems does this create?

MR. ROBERTS: I think you would have created a problem that.. before you could either render or approve a division order title opinion, that you would have to somehow assure yourself that nobody--a neighbor in your instance--say the SW/4 of a particular section was going to attack either an involuntary or voluntary pooling agreement for that N/2 and how you would assure yourself of that, I don't really know, because leases change hands, and maybe this attack could take place next year, or 5 years, or 10 years from now.

MR. KELLOGG: Would it, in your opinion, have an adverse affect on the development of oil under such uncertainty as these?

MR. ROBERTS: It certainly would. It would also have the affect that I don't know when landowners would ever obtain any royalty--how long you'd have to hold them up before you're sure this wasn't going to happen.

MR. KELLOGG: Would you be able to present an early title opinion that would have any validity as to who the royalty was payable?

MR. ROBERTS: I think you'd have some very serious questions as to whether you could or not.

MR. KELLOGG: That's all. I think you testified that the permit that establishes..that establishes a spacing unit is something that you rely upon when going ahead with drilling.

MR. ROBERTS: Industries relied upon in North Dakota for many years.

MR. KELLOGG: Because it affects your risk, doesn't it?

MR. ROBERTS: Yes, sir.

MR. KELLOGG: Now, did Cardinal rely upon the E/2 spacing unit before it proceeded with the drilling?

MR. ROBERTS: Yes, sir.

MR. KELLOGG: That's all.

MR. VANDEWALLE: Mr. Roberts, with regard to Mr. Kellogg's questions, surely if an involuntary pooling order had been granted by this Commission on the E/2 and no appeal was taken within 30 days, subsequently, someone could not come in and ask them to change the spacing.

MR. ROBERTS: That's true, but we are once again being hypothetical. If we didn't have involuntary pooling, if we had voluntary pooling on a rectangular spacing, it seems under North American's theory where this Commission never heard the matter. The lessors and lessees got together and said we'll run it North and South; somebody perpendicular to that spacing hearing may be

next month or 5 years from now could say, I think that it should be involuntarily pooled or run the opposite direction. I think under what North American's contending, there wouldn't be anything to prevent that.

MR. VANDEWALLE: But, this Commission has enough problems without deciding hypothetical, don't you think?

MR. ROBERTS: I think it could become a very real problem in development of oil operations within the state.

MR. VANDEWALLE: With regard to the permits and that's been discussed by both parties today, I know of no reference except the passing reference to the order spacing this area itself, and isn't it true that the State Geologist cannot issue any drilling permits that's not in accordance with the spacing order?

MR. ROBERTS: That's true.

GOVERNOR GUY: Mr. Roberts, you stated that North American Royalties were contacted to join with Cardinal in drilling the well in the SW of the SW/4 of Section 15, that the E/2 of that Section as the spacing unit, and that North American Royalties declined to join. Did North American at any time, offer to drill the well with Cardinal's financial support, providing the spacing unit was on the S/2 of 15?

MR. ROBERTS: The answers to our inquiries are into evidence they have never made a specific proposal to drill a well in that Section 15.

GOVERNOR GUY: Have they ever made a proposal to join Cardinal in the well that Cardinal did drill provided the S/2 of 15 was the spacing unit?

MR. ROBERTS: No, sir.

MR. THAMES: I..I believe Exhibit 9 that Cardinal has introduced would throw some light on this particular question.

MR. ROBERTS: They simply state that the spacing unit should be the S/2; as far as whether or not they were ready--they were ready at any time to drill a well, I don't think they said.

GOVERNOR GUY: So you maintain that North American has never offered to join with Cardinal in a well with the S/2 of the Section being the spacing, nor have they ever offered to be the..to actually drill the well with Cardinal's joining in, is that right?

MR. ROBERTS: That's right.

MR. THAMES: I couldn't hear your answer to that.

MR. ROBERTS: That's right.

MR. BAUER: Governor, this is a question of my integrity, but right now, I testified under oath that we would pay our part...

GOVERNOR GUY: Ah..this is what I want to..and I would ask you the same question...any offers--the original offer from Cardinal was not a written offer, it was a telephone offer, is that correct? Ah..do you have any written offers from North American to the offer that Cardinal made by telephone?

MR. BAUER: I have several letters. I may have some more,

but I've been introducing into evidence...but I'd have to look, indicating that we were willing to share in the drilling of this well.

MR. PALMER: I think you better think back, Art.

MR. BAUER: Hugh, I think that you could..

MR. PALMER: You doesn't say that.

MR. BAUER: You know what our conversation was.

MR. PALMER: I know what it was, you said it was a problem of us getting drained was our problem, not yours. But you had this Wolfe well...

GOVERNOR GUY: Ah..what I'm trying to determine here is whether or not the offers were made by telephone and that there is no record, except the testimony of the parties involved or whether there was a written offer or a written counter-offer by the parties involved.

MR. BAUER: May I just take a moment to go through this, gentlemen?

MR. PALMER: Excuse me a moment, Governor. Our...our proposal wasn't only a telephone conversation, but was followed up by a written request. We have evidence that we were trying to drill the well. If he would have proposed, we might have joined them. But he didn't ever agree to put up any money any time. For running the spacing East/West or North/South at no time.

GOVERNOR GUY: Is there..are there other...is there other testimony that you wish from Mr. Roberts?

MR. DAVIDSON: If it please the Commission, I offer into evidence, Exhibits 1 through 16 and Exhibit 27.

DR. NOBLE: Are there objections to the Commission's receiving Exhibits 1 through 16 and Exhibit 27? If not, they will be received.

GOVERNOR GUY: Are there other witnesses now that should be called? Ah.. Mr. Bauer is looking up this information.

MR. DAVIDSON: Well, we have a witness that we could call.

GOVERNOR GUY: Well, we're not trying to fill up the time, we just want to move it along a little faster.

MR. DAVIDSON: Yes, well he...

GOVERNOR GUY: All right.

MR. DAVIDSON: I think we'll call Mr. Rummel. Frank Rummel. Oh, excuse me. State your name and address.

MR. VOORHEES: T. A. Voorhees, Billings, Montana.

MR. DAVIDSON: And by whom are you employed?

MR. VOORHEES: Cardinal Petroleum Company.

MR. DAVIDSON: And in what capacity?

MR. VOORHEES: Vice-President in charge of operations.

MR. DAVIDSON: What is your formal education?

MR. VOORHEES: I graduated from New Mexico, student in Mining and Technology with a Bachelor of Science Degree in Petroleum Engineering.

MR. DAVIDSON: And have you been employed in this profession

since the date of your graduation?

MR. VOORHEES: Yes, for the past 16 years I have.

MR. DAVIDSON: I ask for the Commission to recognize Mr. Voorhees as an expert witness.

GOVERNOR GUY: The Commission does recognize Mr. Voorhees as an expert witness.

MR. VOORHEES: I believe you all have a copy of Exhibit #17, which is the crux of my testimony. This exhibit and the purpose of my testimony is to present the cost incident to the drilling, completion, and operation of the 15-15 Shank well. In addition to this cost summary, which is Exhibit #17, I do have two sets for the Commission, which are copies of the actual invoices of all invoices received through August 20, 1970. Now these invoices are summarized on Exhibit 17 because the invoices themselves are quite a lot of paperwork. As the exhibit states, this is as of August 20, 1970, and we have reviewed all of our operations, and I think all of the invoices are in and contained herein with the exception of the electric pumping motor on the pumping unit. We were unable to get the motor we desired at this time, so it really has not been delivered. We're just using a motor that's on loan, so there will be one additional charge here, and we estimate that charge will be approximately $1800.00 dollars. Now, would you like me to put down all of these charges, or just the totals?

GOVERNOR GUY: Ah.. please summarize it in words, we have the exhibit in exhibition.

MR. VOORHEES: All right. The principle charge in the drilling cost is the footage drilling, which was done by one of our own rigs, and we have employed a footage rate of $4.75 per foot, which we consider to be a competitive rate in the area. The remaining of the drilling charges are ah.. surveying, permit, the dirt work, drilling mud, water, casing, cement.. all of which is summerized and the total drilling cost to the casing point on this well amounted to $63, 840.03. The completion cost are then summarized, which includes all the various items of equipment and services required to complete the well through the tanks. About three pages of these items and they total $108, 610.15. So, the total completed well cost--drilling and completing--amounted to $172, 450.18, and as I mentioned, there will be the one extra charge of approximately $1800.00, which we have not entered. The last page of this exhibit summarizes the operating expenses of the well to date. This is early July, so we just have one half month in June and all the items are set forth there and they amount to $398.41 for June's, and for the full month of July, the operating expenses amounted to $729.84 and these operating expenses are governed by the accounting procedure which you were furnished as Exhibit #16. That concludes my testimony. Are there questions?

GOVERNOR GUY: Does anyone wish to question Mr. Voorhees? You may be excused. Do you have another witness ready?

MR. DAVIDSON: We will offer Exhibit 17 and ask the Commission approval the costs as provided under the statute.

MR. THAMES: No objection.

GOVERNOR GUY: We will receive the exhibit.

MR. DAVIDSON: State your name and address please.

MR. HARRISON: Ray Harrison, Billings, Montana.

MR. DAVIDSON: And by whom are you employed?

MR. HARRISON: Cardinal Petroleum Company.

MR. DAVIDSON: And what capacity?

MR. HARRISON: Exploration Manager.

MR. DAVIDSON: And what is your formal education?

MR. HARRISON: I graduated with a BS Degree in Geology from the University of Nebraska in 1940. Since that time, the past 24 years, I have been employed as a Petroleum Geologist.

MR. DAVIDSON: By Cardinal Petroleum?

MR. HARRISON: The last 13 by Cardinal, and previous to that, by Smith Petroleum Company and Monsanto Chemical Company.

MR. DAVIDSON: I ask the Commission to accept the testimony of Mr. Harrison as that of an expert.

GOVERNOR GUY: His testimony will be accepted.

MR. DAVIDSON: You may proceed, Mr. Harrison.

MR. HARRISON: I realize time is getting long, and I will make

this just as brief as possible. The geological discussion this afternoon concern itself primarily with the probability of the extension of the Heath B sand up to the Northeast of the Shank well, located in the SW SE of Section 15. In order to really visualize this probability, I think it is necessary that the concept of the deposition be briefly discussed, so that you can see how this..this sort of thing came about. At the end of Mississippian and early in the beginning of Pennsylvanian time, the Williston Basin water area--the Marine area of the Williston Basin lies to the North and Northwest of the area with which we're concerned. And the land mass lies to the East, the Southeast and the South, at some point which is not exactly...not exactly ah..it will be determined. However, the evidence of deposition of the Section of which we are concerned, indicates that the Permian Seas of this particular---the Pennsylvanian Seas--of this particular time was relatively shallow, and that the shoreline was oscillating back and forth across the area of deposition. This such type of oscillating sea is inducing to the buildup of off-shore bars--beach bars--backed up by lagoon, and tidal flats and swamps and that sort of thing. And it brings about a very rapid change in lithology. The one thing about this type of deposition is that many of the off-shore bars and beach bars have a tendency to follow the configuration of the basin, and the configuration of the basin, as we interpret it then is much the same as we interpret it now. We do not see a great

deal of change except for isolated incidents and salt flats and something of that nature. To put this idea on paper, I have prepared Exhibit 18. Exhibit #18, which illustrates the continuity of what is in my opinion, is off-shore bar type deposition in the B Sands of the Heath Reservoir in the West-Dickinson, Dickinson Field. This cross-section runs from the extreme Southwest end of the West-Dickinson Field, approximately through the middle of the field, and goes through the Shank well, which is #12 on the exhibit, and ends up at a dry hole, which is #13. Now you can see that on the exhibit, I have colored yellow the stratigraphic unit that has been referred to as the B sand which we are concerned with, and this general concept I'm sure is very similar to the one Mr. Zajic has mapped an isopach on his exhibits. This does illustrate the continuity of this particular bar deposit coming across through wells #1, 2, 3, 4, 5, 6, 7, and 8 and that time there was some slight readjustment in basic configuration to where the bar kept building up in the section, and continuing to the Northeast in a rather continuous method of deposition. Off to the West, at the time it was building up to the East, the lagoon situation took place and you have the lagoonal black shales overlying the B sands in that particular part of the reservoir. The orange, as indicated on here, is the A Sand with which we are not particularly concerned at the moment, because it does not exist--at least at this point--in the area around Section 15. The

enlargement of the nine-section area, which you see here on this exhibit, is merely this area is... outlined in black and it centers around the area of which we are concerned. This has been put on here to illustrate the continuity of the B interval--now this is not all the time sand, please understand that it... virtually every instance within the field there is a certain amount of limestone associated with the B sand section, but this merely indicates that our tendency for the bar continuation's extending from the South-west end of the field up into the Shank well, distance of 6 or 7 miles. In order to define then the reservoir, there are two things that you must take into consideration; the first of all is the extent of the effective porosity within the base sand of the pay section of the reservoir and the second thing is the structural attitude of that particular pay horizon. Particularily in the case where the reservoir is not completely full of oil and there seems to be a lit-tle water--or some water associated with it and its down dip leg. I have prepared a series of maps which you will see; the first one of which is a structural map that is drawn on the top of what I'm referring to in this hearing as the Heath limestone. Now this is essentially the same volume that Mr. Zajic used in preparing his structural map. The.. the isopach map that you will see, is an isopach of the effective porosity within the interval. And then you will see a structure map that was drawn on the top of the B Sand porosity. Now, the similarity of this map to the exhibit of Mr.

Zajic's is quite pronounced, it is just the one big difference--the major difference involves the area in Section 15. You will note in my cross-examination of Mr. Zajic, I pointed out the start of a structural nose in Section 26, which he indicates on his map; this is in association in continuation of the relatively minor anticlinal flectures that both of us have mapped to the Southwest, right through here, and here, and here, and here. I have continued this structural nose up to the Northwest and through Section 15. I think it's a very, very valid interpretation because it's just simply a continuation of what you can see here, and you definitely have the start of it right down in the producing well section and there is no reason in my mind to cut it off and not continue it on up to the Northwest. By so doing, of course, you place the sediments in Section 15 in a higher structural position than you do on Mr. Zajic's map, and that is the way that I believe it is. That we have a very pronounced low coming down on the South side of the Freed well, in the SW SE of Section 16, and that low continues down from the SW SE--SW NW--of Section 27, which well is actually four feet lower than a regionally down dip well in the SW NW of Section 28. Because of this, we can assume that there is a low through this area, and logically this high that is indicated up dip will continue on through the Northwest. This structure map is drawn on the top of what we refer to as the Heath limestone. In determining the attitude of the basin, at this par-

ticular area--our nearest control point to the North--is just about three miles due North of the Northeast corner of Township 140-96West, that is a well--a dry hole--drilled by Miami and in that particular well, the contoured horizon here is very prominent--no problem in calling it and it figures out to be a datum of -5383. Now this would have to be drawn on 10-foot contours. Here is my 5350 line, here is the 5400, 5380 is right here. You can see that to make this eventually end up at the Miami well, the basin is turning; this is the Southeast corner of the turn, and it heads more to the North than to the East through this area. That is relatively what we feel it is trying to tell us that it's doing right here. And the reason for this is because, in my opinion, the sand bars are building up in relation to the shore line, and that is the way the shore line is turning, and that is the way the sand is turning. Continuing on with Exhibit 20, this is an isopach of the net effective B Sand porosity, whether it contains oil or water, it's a total package of the B Sand porosity in this area. Now my figures for this--for the thickness of this porosity--in the S/2 of Sections 19, 20, 21, and in Section 28 and on to the SW were taken from data prepared by the Dickinson, West-Dickinson unit Engineering Sub-Committee. At their earlier meetings, when there were a good many companies that attended, I imagine 6 or 8 companies were represented, and they arrived at these perimeters for determining the net effective pay for the portion of the field that at any time

was developed. To the Northeast, in the area other than what I have previously described, Mr. Walker--drilling geologist with Cardinal--has indicated to me what he believes to be the net effective porosity of the well and we see that there are slight variations from the map prepared by Mr. Zajic. In other words, we have what Mr. Walker believes that may be net effective pay in the Shank well, we have 9 feet of pay in the Continental Jilek well in the SW NW of 23, I believe he showed 10, we've got 11 in the Wolfe well, which he shows $8\frac{1}{2}$, in the Head Wock State in which he shows the same and I believe that I cut the Freed well down to 1 foot instead of 2 as shown on his map. The other difference from this and Mr. Zajic's map is the fact that has included 2 dry holes--3 dry holes--on the East side of the field with net effective pay. Now, Mr. Walker does not believe that that pay is effective or at least, he cannot find it in the section, because the..the dry hole, which he gave 2 feet of pay on the SW SE of Section 22 was never actually tested--it was plugged as a dry hole. The well in the SW SE of Section 23, in that particular instance, they tested the lower sand--the C Sand--got 3300 feet of water and to my knowledge, there were no oil in the water and the B Sand interval was tested in the same test. The dry hole in the SW NW of Section 25 recovered only 180 feet of oil cut mud on drill stem test of the B Zone. Now, you might ask why did we include the 2 wells in Section...the 2 dry holes in Section 16 as

having some effective pay. Actually, a small amount of free oil was recovered in the well in the SW SE of 16--600 ccs of oil--in the bottom hole sample, so it does have some indication of oil in the bore hole. The dry hole in the SW NW of 16 recovered, as I recall, recovered 90 feet of free oil, and 2 or 300 feet of oil cut mud and oil cut water. So, there is some indication of pay in that well, other than that, the interpretation of--the basic isopach interpretations--are relatively the same, except for the little thicker section I have mapped in the well in the SW SE of 19, which Mr. Zajic has changed and I understand the Engineering Committee at their last meeting, has changed some of these values, but we have not had a chance to really review them, so I'm using accepted values that were previously accepted. Now what does this show? This shows in red, the thickness of the net effective porosity of five feet around the edges of the sand bar. From 5 to 10 feet of the effective porosity is shown in green; from 10 to 15 in orange, and then the thickest well in the field has 19 feet to the 15 to 20 feet of thickness in yellow. You see what this is doing, shows that the net effective porosity within the Heath B Sand starting over here in Section 33 of 140-97, is dealing on up, is following generally the structural figuration as shown on our structure, and that's where the basin bends, the sand is bending, the bar is bending, and that there's no reason to believe otherwise that this will not continue, ah...to follow this same trend of deposition.

I might point out here there's a big difference in our interpretation of the amount of pay in Section 15. As you recall, Mr. Zajic cuts off the porosity just a little North of the center of Section 15. I see no reason whatsoever to terminate that porosity at that point. There are no wells up here for a distance of $5\frac{1}{2}$ to 6 miles to show us that that happens. Therefore, the field continues from the SW to the NW, it continues to develop. We're sitting on a 400-barrel a day well in the SW SE of 15, it doesn't seem logical that the field will end within a half mile of what it has gone through this distance. Now, you say is...has ended at the South end--over here. I'm not sure that it has ended there exactly, but I... I would say that it is very close to the end. We do not have all the data on the Shell well in the SE NW of 32, but it is my understanding that that well has been abandoned in so far as being able to produce any more. You have a dry hole with a..one foot of pay in it--it was not tested, actually, in the SE NW of Section 3, it was abandoned as a dry hole. And here you have a well in the SE SE of Section 33 that has produced I believe around 45,000 barrels of oil in $29\frac{1}{2}$ months. Certainly nothing like we anticipate from this end of the field. Now this may string along to the SW a little bit, I don't know about that, it's no great concern, it's just that I did want to point out that the reason for terminating here would be more logical than terminating at the Northeast. So we have, in my interpretation, the B Sand extending just as it

has extended up to the Northeast. We have a structural configuration that when you map the structure of the B Sand porosity, and I have a feeling that these things that I'm using, Mr. Zajic used and they will be within 1 or 2 feet I'm sure. Now, this is a structure map that is drawn on top of the B Sand porosity, and I believe that the oil-water contact in this field is pretty reliably established and somewhere around -5400. I believe that the Engineering Sub-Committee..a 5404, but I have just used a 5400 as my oil-water contact, and I have placed the well in the SW NW of 16 right at the oil-water contact because it did make oil and it did make some water. This then would be the oil-water contact--the 5400 contour line, which runs like so--down through here, and it is substantiated by production tests and by drill stem tests in this area of the field, so it seems to be reliable figures. So what does this do then? We have a structure starting down here in here in Section 26 of 140-96, showing a tendency to parallel the other structures that we...Mr. Zajic and I both have. We have a sand that shows every indication that continuing up along here following the old shoreline and bending to the North and coming right through Section 15. So, actually, to determine the perimity--perimeters of this field--you overlay your sand isopach upon the structure map of the B Sand porosity and you come up with my interpretation of the definition of the Dickinson, West-Dickinson Field area. And that is my interpretation, the geolog-

ical portrayal of the reservoir, and you will note that it is open-ended to the North, because I can find no particular reason to shut it off. I do not believe that this sand bar that has continued for as long as it has, is going to terminate just beyond the well that's capable of making 400 barrels a day. So this gentlemen, then, represents my interpretation of the West-Dickinson, Dickinson area. The following exhibit, #23 is a well data map on which we show the date the well was completed, the interval cored--if it was cored--the drill stem test taken, the recovery, the pressures, perforated interval, accumulative production to the end of June of 1970, the June rate of production, and the current rate. The.. the location that we have in the SW NW of Section 15 and also in the SW NW of Section 14, I recommend to Mr. Palmer that we drill because I believe that that both of those locations will be productive. Now, I'd say at this time that both these maps that you have seen on the exhibit board were prepared as exhibits from existing work maps that we keep up in our office and this has been our interpretation of this area for some time, that it was not going to stop, that it was going to continue. To illustrate the relative precedent about this exhibit, Exhibit #24 is a map that was prepared by the Dickinson, West-Dickinson Engineering Sub-Committee in January of 1968. You will see how they have drawn the isopach of the B Sand unit at that time. And even before they got the map printed, there was a well comple-

tion in the SE SE of Section 33. And at the time, there was a location in the SW NW--the SW SE of Section 21. To illustrate what has happened, they put out another map in May of 1968--an isopach of the B Sand, and they had naturally, to include the new wells..wells which were on both ends of the trend. That has been continually happening since May of 1968 and it's my firm conviction that it will continue to happen in the future in the NE of Section 15.

MR. DAVIDSON: We will then offer into evidence Exhibits 17, 18...excuse me, 18 through 25.

DR. NOBLE: Are there objections to Exhibits 18 through 25?

MR. THAMES: No objections.

DR. NOBLE: The hearing then, will receive them.

MR. VANDEWALLE: Mr. Davidson, is there an Exhibit 26 then or do we...did you mark one of the exhibits 25?

MR. DAVIDSON: I'm sorry..I didn't...

MR. VANDEWALLE: Oh, there is..okay, just so we know... there's no Exhibit 26.

MR. DAVIDSON: You may cross-examine.

MR. THAMES: Mr. Harrison, on your Exhibit 18 in the enlarged area on the right hand side of that exhibit, as you show the area that we are in question about today, you have used a..representation--that is the gross B interval.

MR. HARRISON: Yes, that's right.

MR. THAMES: And have you shown an...a representation of the net sand interval on any of your exhibits?

MR. HARRISON: Just on the isopach.

MR. THAMES: Do you recall the cross-sections that were presented--prepared--by Mr. Zajic, and in recalling your knowledge of this area of the field, do you note that the sand appears to shale out both to the NW and to the SE, on the basis of the control that we have now?

MR. HARRISON: To the NW.

MR. THAMES: Yes, crossing this linear trend.

MR. HARRISON: The sand gets fairly tight in these wells down in here. In fact, it's so tight, that it's incapable of, in my opinion, being a reservoir rock.

MR. THAMES: And what does it do to the NW of the trend that you have drawn?

MR. HARRISON: Up here?

MR. THAMES: Yes.

MR. HARRISON: In these two wells?

MR. THAMES: Yes.

MR. HARRISON: In the Freed well, in the SW SE of Section 16, the sand is--a developed sand--it lacks permeability. I don't recall right offhand whether it's a..a..siliceous sand or a shaley influence it was. It was a relatively tight well, in the sand section.

MR. THAMES: So then, the sand has a tightness on both sides of this trend, is that correct? Is that what you said?

MR. HARRISON: Yes.

MR. THAMES: The effective reservoir characteristics disappear both to the NW side of the trend and the SE side of the trend?

MR. HARRISON: Yes, there is.. there is some tight present in the SW NW of Section 16, but it is.. my interpretation is that it will disappear.

MR. THAMES: Now, on your Exhibit 19, you have drawn a large nose which... the axis of which passes through Section 15 and up through Section 9. What control do you have for that nose in the Section 9 area and the Section 8 area? Do you have seismic information or something besides just sub-surface wells that we all have?

MR. HARRISON: No sir, I'm just basing it on the.. another leg following the anticlinal flecture that is to the South.

MR. THAMES: Well, you show this as a very regular type of symmetrical type of leg to these structures and it seems to be considerably different in configuration from the other parts of the field. Is there some reason why this should at this point, be symmetrical, where the rest of the field doesn't show this symmetry in the poles?

MR. HARRISON: It's symmetrical for the reason that I have no reason to make it unsymmetrical.

MR. THAMES: Except the configuration in other areas in the field.

MR. HARRISON: Well, this ah. . as you continue, this nose out it's even fairly symmetrical with your sub-surface control, the one to the South of it. Now, this is our two points, that virtually as symmetrical as you can get it, right there.

MR. THAMES: Including the one that you drew parallel to that. . to the NW?

MR. HARRISON: It's very similar.

MR. THAMES: But, to the SW of these two symmetrical folds, the folding is not symmetrical, is it?

MR. HARRISON: No, it. . it's fairly symmetrical where it begins here and here, and then of course, in here, it loses its symmetry.

MR. THAMES: Things change. On your exhibit--

MR. HARRISON: Before we get off to that, I want to mention one thing here, if I may. Now, you're asking me about this nose that I have here and another reason why it's there, which I've failed to point out and I would like you to note this particular low hole down here in Section 31 of I40-95, that is an extremely low hole, and I think the main problem is the low trend is on the North side of the anticlinal features that we're talking about.

MR. THAMES: The way you've contoured.

MR. HARRISON: The way I've contoured.

MR. THAMES: Now, as to Exhibit 20, you have shown and ex-

plained the open-end characteristic, to the Northeast, which is the basis of your interpretation of the field, and all through the remainder of the field, that you show the thickness axis of this sand isopach of its effective thickness--is most erratic, as I read this presentation. The thickness axis changes orientation radically, varies considerable from place to place, it curves, not at all in relationship to the--and yet, at this point of no control, it suddenly is depicted as a smooth curve showing no variations of any kind. Is this presentation consistent with the information which you have shown on the remainder of the field?

MR. HARRISON: Well, I think that any.. any contoured map that is drawn where you have--where you actually run out of well controlled, you follow the trend. You could wiggle these things if you wanted to, but it would serve no particular purpose.

MR. THAMES: It doesn't mean anything, does it?

MR. HARRISON: What we're trying to do is just establish this trend, and you say that it takes irregularities, but the overall trend of this thing, it comes through here, and then of course it forms a split, comes back together, and my opinion continues. And the fact that it does narrow up and then blossom out is exactly the reason why you're liable to have some oil up here in the NE/4 of Section 16. It can do up here just exactly what it did down here.

MR. THAMES: But you don't show it doing that.

MR. HARRISON: Oh yes, I do. I blossom out. I blossom it out to take care of the oil that was recovered in the SW NW of Section 16.

MR. THAMES: In your delineation of the oil area, Exhibit 22, is there any reason in the well control which exists to show that Section 11, as you depicted, would be both within the trend of the sand and above the water table?

MR. HARRISON: Yes, I believe that it would be above the water table because this is my water table line. And following the trend that has been established up through there, I don't know where it quits. I would say..I mean, like I've said before, after going this far, why should it quit?

MR. THAMES: No further questions.

DR. NOBLE: Does anyone else have questions of Mr. Harrison?

MR. VANDEWALLE: Mr. Harrison, there's obviously been some move toward unitization in this area, since you've mentioned the unit committee work, is that right?

MR. HARRISON: Ah..yes, I would--I have not been a member of that committee, and if you have questions concerning that, I would prefer that you ask either Mr. Voorhees or Mr. Walker.

MR. VANDEWALLE: I'm just curious as to whether or not the proposed development that you say is possible in the NE would delay unitization until such time as that area is---

MR. HARRISON: I wouldn't be a bit surprised but what it would.

You have to define the field before you can put it into unitization. This field is not defined, in my estimation.

DR. NOBLE: Are there further questions of Mr. Harrison? You're excused. Do you have other witnesses?

MR. DAVIDSON: Cardinal Petroleum rests.

DR. NOBLE: Does anyone else wish to be heard on this case? Mr. Thames, you wished to make a statement. In the testimony you are about to give, do you promise to tell the truth, the whole truth, and nothing but the truth?

MR. RUMMEL: I do.

MR. KELLOGG: What is your name?

MR. RUMMEL: My name is Mike Rummel.

MR. KELLOGG: Where do you live?

MR. RUMMEL: Richardton, North Dakota.

MR. KELLOGG: Do you have some minerals under the E/2 of Section 14 involved in this hearing--15 rather?

MR. RUMMEL: Yes.

MR. KELLOGG: About how many acres do you have?

MR. RUMMEL: Included together, I have 10 acres.

MR. KELLOGG: Part of it's under part of 14 also?

MR. RUMMEL: Yes.

MR. KELLOGG: But a little more than half is under 15?

MR. RUMMEL: Correct.

MR. KELLOGG: All right, and have you leased your minerals to

North American Royalties?

MR. RUMMEL: Actually they're leased to Ray Moore, but he said he'd represent North American Royalties.

MR. KELLOGG: Yes, and that was about a year or two ago?

MR. RUMMEL: No, about a year.

MR. KELLOGG: Yes, at that time, were you informed by a person who took the lease that an application would be made to space this so that you would receive less than an eighth of the oil produced on your land?

MR. RUMMEL: I don't know that for sure.

MR. KELLOGG: Well, what was the royalty that you were to receive under your lease? What portion?

MR. RUMMEL: It's..it's actually I have a 3/16.

MR. KELLOGG: You have a 3/16 lease?

MR. RUMMEL: Yes.

MR. KELLOGG: Is that right?

MR. RUMMEL: Yes.

MR. KELLOGG: And ah..were you told at the time that North American would make a request for spacing that would cut your production in two?

MR. RUMMEL: No, they did not.

MR. KELLOGG: Do you understand that if their application is granted, it would cut your production in two on your acreage?

MR. RUMMEL: Yes, I understand that.

MR. KELLOGG: And were you told that when the lease was taken?

MR. RUMMEL: No.

MR. KELLOGG: And when was that lease taken?

MR. RUMMEL: I would say a little better than a year ago, I guess.

MR. KELLOGG: Had you known that such an application would be made, would you have signed the lease?

MR. RUMMEL: No, I would not have.

MR. KELLOGG: Thank you.

DR. NOBLE: Are there any questions of the witness?

MR. THAMES: No questions.

DR. NOBLE: You may be excused Mr. Rummel.

MR. VANDEWALLE: I have a question I'd like to ask Mr. Bauer.

MR. THAMES: I'd like to put him back on the stand to answer several issues which have been raised. If this is the proper time.

MR. VANDEWALLE: Well, may I go ahead and just ask this one question. Ah.. on the well in the NW/4 of Section 10, ah.. in ah.. what is it--22, I guess--which way does the spacing unit run, because...

MR. BAUER: It runs East and West.

MR. VANDEWALLE: It runs East and West.

MR. BAUER: Most of the units up there do, Gerry, they're outlined on Exhibit 6 and 7.

MR. VANDEWALLE: Was that done by voluntary pooling?

MR. BAUER: Yes.

MR. VANDEWALLE: It was.

MR. BAUER: One land owner.

MR. VANDEWALLE: Thank you, that's all I wanted to ask.

MR. THAMES: Mr. Bauer, the Governor questioned about the situation of joinder or non-joinder, depending on spacing which transpires back in the 17th of March of this year, would you clarify this by---so this can be straightened out?

MR. BAUER: I'm sorry, but I cannot hear you.

MR. THAMES: Mr. Bauer, would you clarify the negotiations in answer to the Governor's request which took place on or around March of this year, concerning the drilling and the orientation of the spacing unit?

MR. BAUER: Well, I think it starts--it goes back to the conversation that Hugh and I had, and this was on March the 6th, according to Hugh. And I think we've..generally, there's no--there's no question that we disagreed on which way the well should be spaced. Now there's the question as to whether North American is willing to join in drilling the well should it be spaced in the S/2. That's..seems to be the question, and it doesn't seem that anyone from Cardinal right now Mr. Roberts, or Mr. Palmer, can recall any conversation about such things, and in looking over my file and trying desperately some affirmative written statement, the only thing I can find are the two letters that I wrote to Donald Roberts, stating that we were--and they have been intro-

duced as evidence--that we were agreeable to a joinder. That's my interpretation of these letters, providing the spacing would be the S/2 of Section 15, which is what we said before the well, or during the well, and is what we say right now--we'll pay our money. Now, I have, and it can be introduced as evidence, it can be taken for what it's worth, my 1971 Fiscal Year Budget File and my Dickinson Development well files for the rest of the year, 1970. In.. on March the 10th, 1970, we had an exploration meeting in Chatanooga, Tennessee, which is our home office, and I--as the Manager of the Rocky Mountains--went to this meeting and it was my job to present the financial figures on the contemplated wells that we were going to join in in the... our year ends May the 1st, 1971--our fiscal year--for that fiscal year this March the 10th, approximately four days after Hugh talked to me. I have my notes that I used at the time I delivered the figures to the exploration meeting and those notes, if anybody wants to look at them, set forth the Dickinson Field Development Plan, the S/2 of 15, S/2 of 14, the S/2 of 22, and the N/2 of 14--it goes on into many figures. I set forth to upper management of our company exactly what of the forecast cost would plan to be in Dickinson Development. On March the 20th, this is what I have in writing, under our company policy we must send in an international authorization for expenditures. I have here, typed, a copy of our authorization for expenditures covering the drilling of a well in

the S/2 of Section 15, which set forth, my recommendation which I talked about orally at the exploration meeting some 10 days before, but this is the written confirmation setting forth the economics and so forth of our joinder in a well in the S/2 of 15. Now, why would I be doing all of this if I hadn't talked it over with Cardinal? I'd like to know that.

MR. THAMES: Mr. Bauer, in connection with the testimony of Mr. Rummel, under the examination of Mr. Kellogg, would you clarify the situation as to representations made or not made by North American Royalties to Mr. Rummel?

MR. BAUER: Mr. Ray Moore, in no way represented North American Royalties, Inc. as a broker, as an employee; he has no contact with him in regard to buying Mr. Rummel's lease. Whatever he said to Mr. Rummel was his own business. I negotiated a purchase of the lease from Mr. Moore, and paid him a handsome profit on lease. I bought it from him in his own lease, in the record, in his name and we in no way had any connection with him. We made no statements and whatever Mr. Moore made, they were his own statements.

MR. THAMES: Any other questions of Mr. Bauer?

MR. KELLOGG: Well, not quite, did you solicit some leases yourself? That is, your own company on the E/2, except what Mr. Moore took?

MR. BAUER: We had.. I had.. right after the Head-Wock State

well was drilled in June of approximately 1969, and it reaffirmed our position up there, we went out to secure new leases and renew the leases on all the acreage that we could in Section 15 and part of 14. I hired--the one person I hired at that time was Chuck Skjod.

MR. KELLOGG: He was your employee?

MR. BAUER: Yes, and I call--

MR. KELLOGG: And did you direct Mr. Skjod or any other employee to tell these prospective lessors that you would make an application to space this field in such a matter that they'd get only 1/16?

MR. BAUER: No, they--

MR. KELLOGG: You never told them that, did you?

MR. BAUER: No, at that time, the well we're talking about was in the SW NW of Section 21, which was almost two miles away.

MR. KELLOGG: Well. . what I'm talking about--

MR. BAUER: We weren't talking about a well over there at that time.

MR. KELLOGG: Yes, but I understand that you took leases on the E/2 of 15.

MR. BAUER: Right.

MR. KELLOGG: And you didn't direct your employees in taking those leases to inform the lessors that you would ask for spacing that would cut their 1/8 to 1/16, did you?

MR. BAUER: Couldn't, it was a year ahead of the facts. There was no way that I could.

MR. PALMER: Excuse me, could I ask Mr. Bauer something? Mr. Bauer, when did you ah..you made your recommendation to your principals to drill the S/2 of Section 15?

MR. BAUER: I said, at our exploration meeting in Chatanooga, on March the 10th--Dick Zajic was there...

MR. PALMER: Did you...did you make a...did you come back then and subsequently make a recommendation to them to do these things?

MR. BAUER: No, I told them at that time, that we were going to drill---

MR. PALMER: Did you make a written recommendation to drill this well?

MR. BAUER: To you?

MR. PALMER: To them.

MR. BAUER: Yes, I have it here. I'm talking about--this was done internally within our company, Hugh. This was our budget meeting, March the 10th.

MR. PALMER: You've got penciled notes of 'em.

MR. BAUER: I've got it typed out, written copies of letters and so forth, which I haven't had time to do in the last 10 minutes.

MR. PALMER: What was in the budget?

MR. BAUER: They authorized my budget.

MR. PALMER: When?

MR. BAUER: In ah.. that would have been at the time, actually--they authorized the budget orally on the 11th of March.

MR. PALMER: Why didn't you notify us, so you could put your money up?

MR. BAUER: Hugh, we talked to you all during that time. I stopped in Billings twice and talked to Don Roberts, Ray Harrison..

MR. PALMER: The only conversation that you ever had with me was when you talked with me on the telephone.

MR. BAUER: I talked to your other men---

MR. PALMER: The only conversation you made with me was on the phone.

MR. BAUER: Right, I'll agree with you on that.

MR. PALMER: We ask you to join us on the well and you never came back--you never said anything--you let us drill the well.

MR. BAUER: That's what you say.

MR. PALMER: Well, isn't that right? Isn't that correct?

MR. BAUER: No, no.

MR. PALMER: What is correct?

MR. BAUER: Can I.. ah.. put Dick Zajic on the stand and ask him if you want to verify it?

MR. PALMER: Who did Dick talk to?

MR. BAUER: He talked to me, he was in on all the conversations.

MR. PALMER: No. No. Who did he talk with at Cardinal that

had any authority to join you in drilling that well--you know who's got the authority in Cardinal? The members of the company. We've got a hundred and some thousand dollars invested and I know that you testified that you asked Rock Island to tie up the royalties runs. But that wasn't what you asked him. You said all runs.

MR. BAUER: All runs.

MR. PALMER: Then why do you keep testifying royalty runs. There's a difference between royalty runs and all the runs. All the runs means 120 some thousand bucks.

MR. BAUER: That's right.

MR. DAVIDSON: Mr. Bauer, you testified that regardless of whether the unit ran East and West or North and South, the interests of...the difference of interests of North American would be minimal.

MR. BAUER: Approximately 1% on the revenue interest.

MR. DAVIDSON: But isn't it a fact, Mr. Bauer, that if your application is granted and the S/2 is designated as the spacing unit, you will hold leases--North American will hold leases--in the SW quarter by reason of the production.

MR. BAUER: Yes.

MR. DAVIDSON: And that is a tremendous benefit to North American.

MR. BAUER: But it should be, because that is where the reserves

are, sir.

MR. DAVIDSON: I'm merely asking you if it is a benefit to North American?

MR. BAUER: Yes, exactly.

MR. KELLOGG: On that same point, you have just testified that there would be less than 1% difference whether the spacing would be to the West or North or South.

MR. BAUER: As far as North American is concerned.

MR. KELLOGG: Yes, and ah.. so you didn't make this application with any idea of particular profit to yourself?

MR. BAUER: That's right.

MR. KELLOGG: But, out of concern for your other lessors?

MR. BAUER: Lessors and other equitable owners in the area.

MR. KELLOGG: All right, who initiated these proceedings-- did these other lessors for whom you are concerned, initiate these proceedings?

MR. BAUER: North American Royaltics.

MR. KELLOGG: It was your idea.

MR. BAUER: After consultation, after discussion on the phone, after letters and much...

MR. KELLOGG: But, none of these lessors ever came to you to have you initiate these proceedings?

MR. BAUER: No, it's my responsibility under an oil and gas lease is to live up to the contract.

MR. DAVIDSON: Cardinal has the same responsibility under their oil and gas leases to protect their lessors.

MR. BAUER: I agree.

MR. DAVIDSON: And if the E/2 is granted--the spacing unit--Cardinal would be giving good support to their lessors.

MR. BAUER: Cardinal is doing the best job that they can, and North American is and we're leaving it to the fair decision of somebody else.

MR. DAVIDSON: I have no more questions.

DR. NOBLE: Does anyone else wish to question the witness? You may be excused, Mr. Bauer, unless you have something further, Mr. Thames?

MR. THAMES: No.

DR. NOBLE: Are there other witnesses that wish to be heard in either of these cases 1004 and 1005?

BALCH: My name is Durvand Balch, and I live in Minnesota and I'm a former resident of Dickinson. I grew up in Dickinson, attended trade school high school, State Teachers College, went to the University from Dickinson, and went back and practiced law in Dickinson. I say this so that you'll know that I'm not a Minnesotan who's come in speculating in oil in North Dakota. And the minerals that I hold in the E/2 of Section 15, I've held for 19 years. During the last several years, I have a lease--they were under lease to North American Royalties. The reason that the lease

was changed to Cardinal was because we wanted as much assurance as we could that oil would be--that there would be a well put down on our property. I'd like to say that I have no minerals at all in the W/2 of Section 15. Consequently, our royalties would be cut in half if the spacing were changed to the S/2 of the Section and I would object strenuously if this were done. I would like to say also that the minerals that I hold at this point are all the minerals that I hold anywhere ah.. in North Dakota or in the World. And I'd like to conclude my remarks by saying that there's one thing that is perplexing to me as I listen to the testimony here. I wrote down, as the Petroleum Geologist for North American evaluated the reserves under the various quarters in Section 15, and as I wrote them down, if I am correct, he said there's about 2,000 in the NW, about 10,000 in the NE, about 65,000 in the SW, and about 100,000 in the SE. Now, if this is correct, then in the quarter section immediately below the SW about 100,000 barrels has already been taken out in the last 6 months. But in the quarter section just immediately to the North, he put the total reserves of 65,000 on it. In the SE/4, where there is a well producing at the rate of 400 barrels a day at the present time, he put the reserve of 100,000 barrels, which would mean that the well would be exhausted within less than a year. I'm not a geologist, but my mathematics won't add this up.

DR. NOBLE: Thank you, Mr. Balch. Does anyone else wish to

make a statement?

MR. TARR: I'd like to make a statement... is it time to make a statement before the close of the hearing?

DR. NOBLE: Ah..did you...

MR. TARR: I don't want to be a sworn witness.

DR. NOBLE: All right..this last man made a statement, you may make yours.

MR. TARR: Okay, I'm Charles Tarr, and I represent Continental Oil Company at this hearing. Continental Oil Company is both a working interest owner and a royalty owner for mineral interests in the SW/4 of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota. We support the application of North American Royalties, Inc. to pool all interests in the S/2 of Section 15, Township 140 North, Range 96 West, into a 320-acre communitized tract. Continental Oil Company strongly recommends the Commission approve the North American Royalties' application in Case 1005, based upon the engineering and geologic evidence presented by the applicant of which to me, the most convincing is the isopach map of the Heath B Sand presented by Mr. Zajic. If the Commission approves the North American Royalties' application, Continental Oil Company will of course, pay its share of the drilling, completing, equipping, and producing costs of the well now located in the SW/4 of the SE/4 of Section 15, when we receive proper invoices from whomever is to be the operator.

Thank you.

DR. NOBLE: Mr. Tarr...

MR. PALMER: Just a moment, Mr. Tarr. What is the Continental Oil Company's interest in the SW/4?

MR. TARR: 320/8ths.

MR. PALMER: In the SW/4 of...

MR. TARR: The SW/4 of Section 15.

MR. PALMER: You own 320 acres?

MR. TARR: 320/8ths.

MR. PALMER: Oh, you own two interests...3/8ths.

MR. TARR: Something of that order, yes. We own the minerals in fee, they are not leased to anybody so therefore, we..if we join in an operating agreement...if we join in as working interest owner, we would also be a mineral royalty owner...

DR. NOBLE: Are there other statements? Mr. Thames, would you like...would you like to make your conclusion?

MR. THAMES: If it please the Commission, the hour is late, the question is a simple one. As far as the geologic and technical evidence, presented by Mr. Zajic, based upon all the available well control that it concerns, the N/2 of Section 15 will not be commercially productive of oil. It has thus been the contention that in order to protect correlative rights, the spacing unit should overlie that productive portion of the section---namely, the S/2. Cardinal as shown here on their

maps, considers the NE/2 of this section to be in the fairway, to be productive. Cardinal owns leaseholds in the NW of 15, the NE of 15, which if this were spaced S/2, N/2, they would own a significant--a majority interest--in the production to be attributed to a spacing unit covering the N/2 of Section 15. The royalty owners under the E/2, the complaintants, who say their production will be cut in half will not face any such inequitable situation, because they will share in half of the production from the well contributed to the N/2 of 15, just as they share in the S/2 if spacing is set on that premise. They all say their interest will be cut in half; they obviously do not believe Cardinal's geology, because their interest will come as a result of their participation in the other spacing unit, if that is productive. North American Royalties does not feel that this N/2will be productive--this is the premise--this is the whole argument. Cardinal thinks it will. It can be no disadvantage to Cardinal--it can be no disadvantage to the royalty owners who own in the E/2 in any way to space S/2, N/2, because they will participate in not just one well, but in two. In their ratable, proportionate share as their interest bearing too. The cost will be paid in the same ratable, proportionate share as working interest by a contract, bears to the whole of the cost, drilling, completion, operating. Every participant who has appeared today has expressed a willingness to pay their fair share of the cost of

drilling. North American Royaltics does not own an interest in the NW/4. We did own an interest but that lease expired. It was not renewed. Our maps tell us that we don't want to renew it. Somebody else's maps say that's a valuable lease. Well, this is the conflict of experts, but no one's rights are being infringed upon by S/2 N/2 spacing as Cardinal proposes, if you believe and if they believe the exhibits that they present. If they believe their geology, they're in a better position and they own a greater interest in a N/2 spacing under the reservior as they depicted, if it is spaced in that manner. Then, they will have,no mater how it works out--spaced E/2 W/2. Thank you.

MR. DAVIDSON: I agree with Mr. Thames with one point and that is it sure did take a long time to argue this case, I want to compliment him on his presentation. But I want to point out one erroneous thing and that is that his statement that no one has anything to gamble if we believe Cardinal's geology. Now, I'm here representing an oil company, as an attorney, I realize that oil companies are gamblers. I happen to be a land owner and I think someone should consider them. The land owners in the E/2 of the section already have production; they're entitled to a royalty payment--they're not--should not be subjected to exploration which nowwe know is based upon two conflicting geological theories. A bird in the hand is always worth two in the bush as far as I'm concerned, and I submit

to the Commission that the people that have that bird in the hand should be able to retain it without having part of it. . or half of it taken away by reason of the fact that someone desires to hold some leases in the SW/4 by production. I'm not going to belabor the point of. . the legal points involved here. I think they're all fairly representative now before the Commission. In my opinion--in my legal opinion, for whatever it is worth--I think the positions taken by Cardinal Petroleum Company as to these legal points are very well taken and I agree wholeheartedly with Mr. Roberts when he testifies that if North American's application is allowed to stand, it's going to throw the entire exploration process into complete chaos. Cardinal Petroleum Company has spent an excess of $170,000 to drill an oil well, based upon their own geology, without the assistance of anyone else, whether its the ownership of fee minerals or Continental or the minerals owner by. . or the--excuse me--the leases owned by North American. The fact still remains that Cardinal was the one willing to go out and find this oil--willing to expend the money to expose their resources to this very great danger of hitting a dry hole. They were successful, and any ruling contrary to the Cardinal application would be contrary to good, solid, fair play. I thank the Commission for their time and Cardinal rests.

DR. NOBLE: Does anyone else wish to be heard in Case 1004 or Case 1005? If not, the Commission will take it under advisement.

STATE OF NORTH DAKOTA)
) ss
COUNTY OF GRAND FORKS)

I CERTIFY that the record of this hearing was made under my direction, and has been continuously in my custody; that no alterations or additions have been made to the record; and that this transcript thereof is true and correct, to the best of my knowledge and belief.

Done at Grand Forks, North Dakota, this 18th day of November, 1970.

F. E. Wilborn
Assistant Petroleum Engineer

STATE OF NORTH DAKOTA)
) ss
COUNTY OF GRAND FORKS)

I HEREBY CERTIFY that the foregoing is a true and correct transcript of the original tape recording of said hearing, and a full and complete statement of the testimony and other proceedings which it purports to contain.

Done at Grand Forks, North Dakota, this 18th day of November, 1970.

Linda Bierlein
Records Clerk
North Dakota Geological Survey

I-13733

R.97 W. | R.96 W.

WEST DICKINSON FIELD DELINEATION

DICKINSON FIELD DELINEATION (Zone 2)

DICKINSON FIELD DELINEATION (Zone 1)

T. 140 N.

T. 139 N.

CARDINAL

DICKINSON-WEST DICKINSON FIELDS
STARK COUNTY, NORTH DAKOTA

DELINEATION OF FIELD AREAS AND INDIVIDUAL WELL SPACING UNITS

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Goodman Pet.
Exhibit 1
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
Prepared by
DONALD K. ROBERTS
LAND MGR.

CASE NO. 1005
EXHIBIT NO. 1
AUGUST 20, 1970

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 2
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 2

AUGUST 20, 1970

Edwin A. Noble
State Geologist

NORTH DAKOTA GEOLOGICAL SURVEY

UNIVERSITY STATION • GRAND FORKS, N. DAK. 58201 • AREA CODE 701—777-2231

March 30, 1970

Mr. Donald K. Roberts
Cardinal Petroleum Company
Box 1077
Billings, Montana 59103

Dear Mr. Roberts:

Check No. 41359 in the amount of $25.00 was received.

Enclosed is Permit No. 4917 to drill the Schank et al #1 well, located in the SW SE of Section 15, T. 140N., R. 96W., Stark County, North Dakota.

Sincerely yours,

Edwin A. Noble
State Geologist

so
enclosures

FORM 1

Oil and Gas Division

North Dakota State Industrial Commission

APPLICATION TO DRILL

SEE INSTRUCTIONS OTHER SIDE

FILE THIS APPLICATION WITH THE STATE GEOLOGIST, UNIVERSITY OF NORTH DAKOTA, GRAND FORKS, N. D.

DATE March 25, 1970

NAME Cardinal Petroleum Company
(Operator) (Driller)

SEND PERMIT TO: STREET P. O. Box 1077 CITY Billings STATE Montana 59103

DESCRIPTION OF LEASE

NAME OF LEASE OWNER Cardinal Petroleum Company

NAME OF FEE OWNER Schank et al ACRES IN LEASE 320 WELL NO 15-15

SEC. 15 TWP. 140 North RANGE 96 West COUNTY Stark FIELD Dickinson

Distance from proposed location to (N) (S) Section Line 660 feet and distance from (E) (W) section line 1980 feet.

Nearest distance from proposed location to drilling unit line 660 feet. Distance from proposed location to nearest drilling, completed permitted or applied for well 3300 feet. Depth to which propose to drill 8050 feet.

Acres in drilling unit 320. Elevation of (ground) ~~(KB) (DF)~~ above sea level 2525 feet.

REMARKS Well to be drilled in conformity with 320 acre spacing in Dickinson Field. Drilling Unit to be the E½ of Section 15, T140N-R96W. Survey plat will be forwarded upon receipt from Surveyor.

DATED THIS 25th DAY OF March, 1970 BY CARDINAL PETROLEUM COMPANY
(Office)

OPERATOR

STATE OF Montana
COUNTY OF Yellowstone } ss

I, Donald K. Roberts being first duly sworn on oath, state that I am the Manager, Land Department of Cardinal Petroleum Company and have knowledge of the facts and matter herein set forth and that the same are true and correct.

NAME Donald K. Roberts TITLE Manager, Land Department

SUBSCRIBED AND SWORN TO BEFORE ME THIS 25th DAY OF March, 1970

PERMIT NO. 4917 33-089-00100

APPROVED March 30, 1970
Original signed by Edwin A. Noble State Geologist

DENIED

BY
(State Geologist)

NOTARY PUBLIC, COUNTY OF Yellowstone
STATE OF Montana
My Commission Expires 5-1-72
Residing in Billings, Montana.

EXTRACT FROM
Minutes of a Meeting of the North Dakota Industrial Commission
Held on Thursday, April 18, 1968, at 9:40 a.m.

It was moved by Attorney General Johanneson and seconded by Commissioner Dahl that the Commission direct the State Geologist to require the making and filing of mechanical logs, such as electric logs or radioactivity logs, on all wells in North Dakota. The motion was declared carried.

Cardinal Petroleum Company
Schank et al #15-15

NOTICE

(1) Samples on this well (are) ~~(are not)~~ to be taken and forwarded to the State Geologist prepaid. Include all samples from Surface to total depth.

(2) Cores taken on this well (are) ~~(are not)~~ to be forwarded to the State Geologist prepaid. Please include all cores.

If this well is carried below projected depth, the State Geologist or his representative must be informed. You will be notified at that time of the disposition to be made of samples and cores taken in the additional interval.

(3) This well site is in the area covered by Mr. Erling Brostuen, Field Inspector, who can answer any questions you may have on the Rules and Regulations. Office: Hapip Building, Box 997, Williston, North Dakota. Telephone Numbers: Office: Area Code, 701, 572-~~5201~~ 7707 58801
Home: Area Code, 701, 572-2050

(4) Please send all logs (mechanical, electric, etc.) in TRIPLICATE.

Industrial Commission of the State of North Dakota

SEE INSTRUCTIONS ON OTHER SIDE

FORM 4

Refer to Permit No. 4017

SUNDRY NOTICES AND REPORTS ON WELLS

1. Notice of Intention to Drill or Redrill	X	7. Report of Casing	
2. Notice of Intention to Change Plans		8. Report of Redrilling or Repair	
3. Notice of Intention to Pull Casing		9. Supplementary History	
4. Notice of Intention to Abandon Well		10. Well Potential Test	
5. Report of Water Shut-Off		11.	
6. Report of Shooting or Acidizing		12.	

(Indicate nature of notice by proper check mark in space above)

NAME OF LEASE Schank et al Date March 25 19 70

WELL NO. 15-15 is located 660 ft. from (N) (S) line and 1980 ft. from the (E) (W) line of Section 15 Township 140 North Range 96 West in Stark County Dickinson Field Heath Pool. The elevation of the ground is 2525 feet above sea level.

Name and Address of Contractor, or Company which will do work is:

Cardinal Petroleum Company, P. O. Box 1077, Billings, Montana 59103

(DETAILS OF WORK)

(State names of, and expected depth of objective sands; show sizes, weight, and lengths of proposed casing, indicate mud weights, cementing points, and all other details of work).

1. Cardinal Petroleum Company plans to drill an 8050' Heath test at the above location with rotary tools.
2. 8-5/8" surface casing will be set at 600' and cemented to surface.
3. If long string is run, either 5½" or 4½" production casing will be used and cemented in accordance with existing regulations.
4. Objectives include all potentially productive oil and/or gas horizons from surface to total depth
5. Survey plat will be forwarded upon receipt from Surveyor.

Company CARDINAL PETROLEUM COMPANY

Address Box 1077, Billings, Montana 59103

By Donald K. Roberts

Title Manager, Land Department

Do not write in this space

Approved March 30, 19 70

By Original signed by F. E. Wilborn

Title Assistant Petroleum Engineer

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA

Prepared by Donald K. Roberts

CASE NO. 1005 - EXHIBIT NO. 3
August 20, 1970

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 3
Identified by Don. Roberts

MINERAL OWNERSHIP
E½ Section 15, Township 140 North, Range 96 West
Stark County, North Dakota

William Rummel	3.7946%
Theodore Kellogg	6.8750%
John A. Hoff	.8929%
Frank Rummel, Jr. and Margaret Rummel, as joint tenants	.8929%
Frank A. Fischer and Tillie Fischer, as joint tenants	1.7857%
Sebastian A. Mischel and Odessa Mischel, as joint tenants	1.7857%
E. O. Hancock	7.1428%
Julian Tosky and Pearl Tosky, as joint tenants	1.7857%
George P. Ficek	1.7857%
R. L. Higgins	1.7857%
* E. E. Rakowski	1.7857%
* Jacob Schank and Kathryn Schank, as joint tenants	17.8571%
Estate of Wm. R. Reichert, deceased	1.3393%
Ward M. Kirby	.3572%
Norbert J. Muggli	.3572%
Duke Oil, Inc.	1.7857%
North American Royalties, Inc.	10.7143%
The Home-Stake Oil & Gas Company	1.7857%
The Home-Stake Royalty Corporation	1.7857%
R. E. Moore	1.7857%
Hugh DeWitt Landis	1.1905%
Elizabeth Landis	1.1905%
Viola L. Younger	1.1905%
Johnnie L. Service	1.1905%
Emma L. Purves	1.1905%
J. Hiram Moore	1.1905%
Shirley Ruth Shapiro	6.4732%
Evelyn Margaret Rauch	6.4732%
Margaret H. Rummel	3.7947%
O. E. Balch	6.2500%
The First Trust Company of St. Paul, as Trustee for Johann Maud Hill	.5952%
The First Trust Company of St. Paul, as Trustee for Louis Fors Hill	.5952%
The First Trust Company of St. Paul, as Trustee for Marl Hill	.5952%

WORKING INTEREST

$E\frac{1}{2}$ Section 15, Township 140 North, Range 96 West
Stark County, North Dakota

Cardinal Petroleum Company	31.91968%
* North American Royalties, Inc.	37.61160%
* Louis W. Hill, Jr.	26.89731%
J. Hiram Moore	3.57141%

* Interests set forth above assume Rakowski and Schank leases to North American are in full force and effect. Cardinal, as Operator, recently served with notice that lessors consider leases terminated.

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA

Prepared by Donald K. Roberts

CASE NO. 1005 - EXHIBIT NO. 4
August 20, 1970

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1005
Introduced by Cardinal Pet. Co.
Exhibit 4
Identified by Don. Roberts

MINERAL OWNERSHIP
W½ Section 15, Township 140 North, Range 96 West
Stark County, North Dakota

NW¼ Section 15

Robert and Angeline Kadrmas	100.0000%

SW¼ Section 15

Frank Veverka, Jr.	25.0000%
Joe Kralicek, Jr. and Josephine Kralicek, as joint tenants	25.0000%
White Eagle Oil Company	23.4375%
San Jacinto Petroleum Corporation	4.6875%
Virginia C. Moseley, formerly Virginia C. Dick	2.8125%
Virginia C. Moseley, formerly Virginia C. Dick, and Edward H. Green, Trustees	1.8750%
Huston Huffman	4.6875%
North American Royalties, Inc.	12.5000%

WORKING INTEREST
W½ Section 15, Township 140 North, Range 96 West
Stark County, North Dakota

NW¼ Section 15

Cardinal Petroleum Company	100.000000%

SW¼ Section 15

Louis W. Hill, Jr.	27.343750%
North American Royalties, Inc.	39.343750%
Continental Oil Company	4.687500%
Helmerich & Payne	23.437500%
Huston Huffman	4.687500%

W½ Section 15

Cardinal Petroleum Company	50.000000%
Louis W. Hill, Jr.	13.671875%
North American Royalties, Inc.	19.921875%
Continental Oil Company	2.343750%
Helmerich & Payne	11.718750%
Huston Huffman	2.343750%

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet.
Exhibit 5
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 5

AUGUST 20, 1970

E Duckwall

April 14, 1970

North American Royalties, Inc.
P. O. Box 1476
Bismarck, North Dakota 58501
Attn: Mr. Art Bauer

Louis W. Hill
W. 1453 First National Bank Bldg.
St. Paul, Minnesota 55101

Gentlemen:

Cardinal plans to drill a Tyler Sand test in the $SW\frac{1}{4}SE\frac{1}{4}$ of Section 15 with the spacing unit for this well consisting of the $E\frac{1}{2}$ of Section 15. Our records indicate that North American and Louis W. Hill have under lease approximately 50% of the minerals and that North American owns an additional 10.7% of the minerals in this spacing unit.

We propose that a Pooling Agreement be entered into to pool all interests in the $E\frac{1}{2}$ of Section 15 and an Operating Agreement be entered into naming Cardinal as the operator and that the well be drilled in the immediate future. If our proposal meets with your approval, please signify in the space provided and the necessary agreements will be forwarded for your execution.

Also enclosed for your examination and approval are A.F.E.'s for the drilling and completion of our proposed well in the $SW\frac{1}{4}SE\frac{1}{4}$ of Section 15. If the well in the $SW\frac{1}{4}SE\frac{1}{4}$ of Section 15 is successful, we would propose that a second well be drilled in the $SW\frac{1}{4}NW\frac{1}{4}$ of Section 14 and the spacing unit for this well to consist of the $W\frac{1}{2}$ of Section 14. Your interest in this

second well would be 3/4ths the interest in the well in Section 15 since Continental owns the E½ of the NW¼ of Section 14. We are likewise enclosing an A.F.E. for the second well for your examination and approval.

Thank you for your cooperation.

Yours very truly,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Manager, Land Department

DKR/br

Enclosures

APPROVED AND AGREED TO
THIS ____ DAY OF _____, 1970.

By:_____

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 6
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 6

AUGUST 20, 1970

NORTH AMERICAN ROYALTIES, INC.

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

April 17, 1970

Mr. Donald K. Roberts
Cardinal Petroleum Company
Box 1077
Billings, Montana 59103

Dear Sir:

We are in receipt of your letter dated April 14, 1970, enclosing copy of Authorization for Expenditure for the drilling of Heath tests located in the SWSE-15 and SWNW-14-140-96.

We are not agreeable to your proposal that the spacing unit for the well in Section 15 be deemed the E½-15. This letter is, of course, being written in behalf of North American and Mr. Louis W. Hill, Jr. According to our records, we would have an approximate 65% cost bearing total interest in a spacing unit covering the E½-15, with a net revenue interest of an approximate 53%. If the spacing unit for the well in the SWSE-15 is defined as the S½-15, we would have a combined approximate 66% cost bearing interest and an approximate combined 59% revenue interest.

For this reason it would be to the advantage of North American to space this well in the S½-15. I am, of course, interested in doing the best I can for our company and I realize you are interested on behalf of Cardinal, but we strongly feel the equities of this situation require that the oil underlying the SW-15 should be included within the spacing unit being drained by a well in the SWSE-15. It is our feeling that the NE-15 should be joined with the NW-15 for the 320-acre unit of production for a well located in the SWNW-15.

We would also insist that North American be the operator of the wells to be drilled in the SWSE-15, and if a well is drilled in the SWNW-15 and in the SWNW-14, North American also be the operator of these wells. We will await your reply.

Very truly yours,

NORTH AMERICAN ROYALTIES, INC.

By: Arthur C. Bauer

ACB/gt

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 7
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 7

AUGUST 20, 1970

LOUIS W. HILL, JR.
1493 W. FIRST NATIONAL BANK BUILDING
ST. PAUL, MINNESOTA 55101
224-4664

April 21, 1970

RECEIVED
APR 24 1970
CARDINAL

Mr. Donald K. Roberts,
Manager Land Department,
Cardinal Petroleum Company,
P.O.Box 1077,
Billings, Montana 59103

Dear Mr. Roberts:

As you will remember, I am sure, I am closely associated with North American Royalties, Inc. of Bismarck, regarding Pooling Agreements in Section 15, East Dickinson Field.

I would like to tell you that I agree with North American that for my interest I would definitely prefer to have the basis for spacing unit set up as the S½ Section 15 instead of the E½. Further than this I would also feel it is logical to wait for the completion of the well in the SWSe of Section 15 before I authorize expenditure for drilling a well in the W½, Section 14.

Sincerely,

Louis W. Hill Jr.

lwhjr/p
cc: A.Bauer:

P.S. We are returning unsigned AFE No. 40970 Schank #5-14 and AFE No. 40970 Schank 15-15 as we assume they will be changed.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet.
Exhibit B
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 8

AUGUST 20, 1970

Telefax WESTERN UNION Telefax

SENDING BLANK

CALL LETTERS	FFN	FW	PD	CHARGE TO	Cardinal Petroleum Company

5/8/70

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

Mr. Louis W. Hill
W. 1453 First Natl Bank Bldg.
St. Paul, Minnesota 55101

Cardinal again requests that you both join us in drilling a Tyler test in the $SW\frac{1}{4}SE\frac{1}{4}$ Section 15-T140N-R96W, Stark County, N.D. with Cardinal as operator. We are presently rigging up and plan to commence drilling operations first of next week. $E\frac{1}{2}$ of Section 15 is logical spacing unit due to mineral ownership and will protect correlative rights.

Donald K. Roberts
Cardinal Petroleum Company
Billings, Montana

Send the above message, subject to the terms on back hereof, which are hereby agreed to

PLEASE TYPE OR WRITE PLAINLY WITHIN BORDER—DO NOT FOLD

1269—(R 4-55)

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 9
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 9

AUGUST 20, 1970

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

May 11, 1970

File North Dickinson

Re: Proposed Tyler Test
SWSE 15-140-96
Stark County, North Dakota

Mr. Donald K. Roberts
Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Dear Sir:

I wish to acknowledge receipt of your telegram of May 8, 1970, requesting that we join in drilling a Tyler test in the SWSE 15-140-96, Stark County, North Dakota, with Cardinal as operator and with the spacing unit for said well to be the $E\frac{1}{2}$ of 15.

As you know, I was out of the office the day that the telegram was received and this is my first opportunity to answer. I talked with Louis W. Hill, Jr. on the telephone this morning, and wish to advise you that we have not changed our position with regard to the drilling of the subject well. We strongly reaffirm the position that we took in my letter of April 17, 1970. The spacing unit for the subject well should be the $S\frac{1}{2}$ of Section 15 in order to protect the correlative rights of all of the parties and, in addition, North American should be the operator of this well. We urge that you do not commence drilling operations until a mutual understanding has been arrived at between all of the parties.

Very truly yours,

NORTH AMERICAN ROYALTIES, INC.

Arthur C. Bauer

ACB:ms

By: Arthur C. Bauer

cc: Louis W. Hill, Jr.

CERTIFIED - RETURN RECEIPT REQUESTED

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 10
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 10

AUGUST 20, 1970

LOUIS W. HILL, JR.
1483 W-FIRST NATIONAL BANK BUILDING
ST. PAUL, MINNESOTA 55101

File No. D-Kilmer

224-4064

May 11, 1970

RECEIVED
MAY 13 1970
CARDINAL

Mr. Donald K. Roberts,
Manager Land Department,
Cardinal Petroleum Company,
P. O. Box 1077,
Billings, Montana 59103

Re: Plans to drill Tyler
Test in SW¼SE¼ Section
15-140-96W Stark County N.D.

Dear Mr. Roberts:

I have your wire of May 8, 1970 again requesting my approval to join Cardinal in drilling the Tyler Test in the area described above. In my letter to you dated April 21, 1970 I outlined my preference in this matter and I am sorry but I have had no reason to change my mind since. Mr. Arthur Bauer of North American Royalties is sending you a wire today restating their position. I have discussed this with Mr. Bauer and you can accept his telegram as speaking for me also.

Sincerely,

Louis W. Hill, Jr.

lwhjr/s/p

cc: A. Bauer

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet.
Exhibit 11
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 11

AUGUST 20, 1970

CARDINAL PETROLEUM COMPANY

ESTIMATED WELL COST

AUTHORIZATION FOR EXPENDITURE

WELL NAME Schank #15-15 AFE NO. 40970

FIELD Dickinson ESTIMATED BY BB

LOCATION SW¼SE¼ Sec. 15-140N-96W
Stark County, North Dakota

		DRY HOLE	COMPLETED WELL
DRILLING COSTS			
Survey & Stake location		90.00	
Permit		25.00	
Make location & Roads		600.00	
Pits		300.00	
Moving & Rigging		Contractor	
Footage Drilling	$4.75 X 8050'	38,238.00	
Mud		6,500.00	
Water	Salt water in excess of $1500.00	4,000.00	
Daywork, Circulating, Logging, etc.	24 hour @ $71.00	1,704.00	
Surface Casing	600' 8-5/8" 24#	2,040.00	
Cementing Service		450.00	
Cement	350 sx	1,125.00	
Shoe, Centralizer, etc.		150.00	
W.O.C. Time		Contractor	
Coring, Service & Rig Time	One 50' core	2,500.00	
DST, Service & Rig Time	One DST	2,000.00	
Electrical Logging	L-GR-Surface to T.D. FDC - minimum run	3,100.00	
Micro-Device		N.R.	
Plug and Abandon		Contractor	
Cementing Service		450.00	
Cement	125 sx	400.00	
Misc. Trucking		200.00	
Geologist Service		1,000.00	
Fill Pits and Level Loc.		500.00	
Waiver of Damages		600.00	
Other		-	
TOTAL DRY HOLE COST		$65,972.00	

CARDINAL PETROLEUM COMPANY - ESTIMATED WELL COST

WELL NAME Schank #15-15

		DRY HOLE	COMPLETED WELL
COMPLETION COSTS			
Casing, Oil String	8050' 5½" 14,15.5 & 17#		18,850.00
Shoe, Float Collar, Scratchers, Centrailzers			800.00
Cementing Service			700.00
Cement	Includes Hydrazine		1,800.00
W.O.C. Time	No Cost		-
Well Head & Valves	Includes stuffing box & polish rod		900.00
Tubing	8000' 2-7/8" OD		7,650.00
Tubing Subs, Perf Nipple, etc			200.00
Correlation Log			600.00
Perforating			800.00
Packer			400.00
Load Oil	Hauling Only		200.00
Acidize	500 Gal. cleanup acid		700.00
Fracture	If required		5,000.00
Rig Time, Completion			2,500.00
Pumping Unit	912 Lufkin		16,350.00
Pumping Engine	100 HP Elec.		1,500.00
Sucker Rods	8000' 1" 7/8" 3/4"		5,200.00
Downhole Pump	2½" tubing liner pump		800.00
Unit Foundation	Poured Concrete		700.00
Engine House	None		-
Tanks	3 - 400's with walkways		7,400.00
Heater - Treater	7 X 15 Connors Horz		5,900.00
Treater Base	Pre-Stressed Conc.		140.00
Treater Insulation & Housing	Includes battery insulation		3,500.00
Separator	None		-
Line Pipe			500.00
Fittings, Tank Battery & Flowlines	Includes circ. pump and installation of heat cables & thermostatic controls		7,000.00
Meters and/or Meter Run	None		-

CARDINAL PETROLEUM COMPANY - ESTIMATED WELL COST

WELL NAME Schank #15-15

		DRY HOLE	COMPLETED WELL
COMPLETION COSTS - Cont'd			
Contract Labor	Erect Pumping Unit		500.00
Lease Road	Grading & Scoria		1,500.00
Salt Water Disposal Pit			300.00
Tank Grade, Gravel	Scoria		100.00
Trucking	Misc.		500.00
Welding			300.00
Special Tools, Bits, etc	None		-
Electrification			500.00
Engineering Service			300.00
Production Foreman Service			800.00
Other	Misc.		300.00
TOTAL ESTIMATED COMPLETED WELL COST			$160,312.00

APPROVED AND AGREED TO
THIS 22nd DAY OF April, 1970.

By: J. Hiram Moore

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

RECEIVED
JUL 6 1970
CARDINAL

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 E½ of Section 15 as originally approved to the S½.

I am a native and former resident of Dickinson, N. D., and one of the owners of minerals under the SE¼ of Section 15 which I have held since 1951. I hold no mineral acreage in the SW¼ 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 SW¼ of Section 15. It is also my understanding that North American Royalties has brought in a producing well in the NW¼ 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 NW¼ 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 (SW¼ 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 E½ 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 SE¼ 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 NW¼ of Sec. 15 for the protection and interests of itself and other mineral owners in the W½ 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 E½ 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

Durward E. Balch

copy also sent to
Tod Kellogg

P. O. Box 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the E½ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the E½ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the E½ of Section 15, it was necessary for us to request that the other parties who own leases in the E½ of Section 15 join us in the drilling of the well and concur in our designation of the E½ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the S½ of Section 15 rather than the E½. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the E½ of Section 15 as the Spacing Unit.

As a Lessor of Cardinal Petroleum Company or Mr. Moore, we feel that your interest in this matter coincides with that of Cardinal Petroleum and Mr. Moore. This is true since you do not own a mineral interest in the SW¼ of Section 15, which North American Royalties requests be joined with the SE¼ to make the S½ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the SW¼ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the SW¼. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the S½ as North American Royalties desires, rather than the E½ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the S½ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the E½ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 25th day of June, 1970.

Leonard E Balch

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

Although your Lessee is North American Royalties, we feel that your interest in this matter coincides with that of Cardinal Petroleum Company and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the SW¼. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the S½ as North American Royalties desires, rather than the E½ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the S½ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the E½ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970; we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 10th day of August, 1970.

DUKE OIL, INC.

By: _____

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

CARDINAL

Add to list

RECEIVED
JUL 15 1970
CARDINAL

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

Although your Lessee is North American Royalties, we feel that your interest in this matter coincides with that of Cardinal Petroleum Company and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the SW¼. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the S½ as North American Royalties desires, rather than the E½ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the S½ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the E½ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 16th day of July, 1970.

WILLIAM A. MILLER
ALFRED S. PFAFF

MILLER & PFAFF
ATTORNEYS
SALEM, ILLINOIS
62881

TELEPHONE
548-3300
AREA CODE 618

July 2, 1970

RECEIVED
JUL 6 1970
CARDINAL

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

Gentlemen:

Recently Dr. E. O. Hancock signed a Communitization Agreement covering oil properties in Township 140 North, Range 96 West communitizing the entire South half (S½) of Section 15. Dr. Hancock owns mineral interests under the entire East half (E½) of Section 15, but owns none in the West half (W½).

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 (E½) of Section 15 rather than the South half (S½).

Itwas learned also from them that they had drilled a well in the Southwest Quarter (SW¼) of the Southeast Quarter (SE¼), 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 (E½) rather than the South half (S½) of Section 15. He feels that his action in signing the first agreement was percepted 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 (E½) 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

Alfred S. Pfaff

ASP:bd

COPY

Area Code 618
Phone 548-1518

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 interest in the Spacing Unit Described as the E½ 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 expidite 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

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

Although your Lessee is North American Royalties, we feel that your interest in this matter coincides with that of Cardinal Petroleum Company and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the SW¼. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the S½ as North American Royalties desires, rather than the E½ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

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We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 5 day of July, 1970.

John A. Hoff

Irene M. Hoff

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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As a Lessor of Cardinal Petroleum Company or Mr. Moore, we feel that your interest in this matter coincides with that of Cardinal Petroleum and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the $SW\frac{1}{4}$. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the $S\frac{1}{2}$ as North American Royalties desires, rather than the $E\frac{1}{2}$ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

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Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 23rd day of June, 1970.

Theodore Kellogg

Kathleen Kellogg

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

CARDINAL

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY.

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 25th day of June, 1970.

Virginia Kelly - Wesley W. Kelly

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

CARDINAL

RECEIVED
JUL 14 1970
CARDINAL

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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As a Lessor of Cardinal Petroleum Company or Mr. Moore, we feel that your interest in this matter coincides with that of Cardinal Petroleum and Mr. Moore. This is true since you do not own a mineral interest in the SW¼ of Section 15, which North American Royalties requests be joined with the SE¼ to make the S½ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the SW¼ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

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Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 10 day of July, 1970.

Mrs. Elizabeth Landis

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Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 1st day of July, 1970.

Sebastian A. Imhoff

Rechelter, N. Dak.

9 A.M.

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

CARDINAL

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 26th day of June, 1970.

J. Hiram Moore

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7328

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the E½ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

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When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the E½ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the E½ of Section 15, it was necessary for us to request that the other parties who own leases in the E½ of Section 15 join us in the drilling of the well and concur in our designation of the E½ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the S½ of Section 15 rather than the E½. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the E½ of Section 15 as the Spacing Unit.

Although your Lessee is North American Royalties, we feel that your interest in this matter coincides with that of Cardinal Petroleum Company and Mr. Moore. This is true since you do not own a mineral interest in the SW¼ of Section 15, which North American Royalties requests be joined with the SE¼ to make the S½ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the SW¼ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the SW¼. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the S½ as North American Royalties desires, rather than the E½ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the S½ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the E½ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 30 day of June, 1970.

Emma L. Thomas
427 So. Maple St
Douglass, Kansas - 67039

P. O. BOX 1077
BILLINGS, MONTANA
59103



AREA CODE 406
PHONE 248-7324



June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

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When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

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We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 29 day of July, 1970.

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

CARDINAL

RECEIVED
JUN 30 1970
CARDINAL

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

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When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

As a Lessor of Cardinal Petroleum Company or Mr. Moore, we feel that your interest in this matter coincides with that of Cardinal Petroleum and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

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We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the S½ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the E½ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 26th day of June, 1970.

Carolyn Morgan Couch

June 30, 1970

State of North Dakota
Industrial Commission
Bismarck, North Dakota

Gentlemen:

This is in regard to the hearing that will be held on July 21, 1970, as to how spacing will be in Section 15, Township 140, Range 96, Stark County.

I am the owner of a small amount of minerals under the East half of this Section and I feel that spacing should be North-South; that is, to have the East half of the Section in one unit; yet, it is my understanding that the drilling permit was originally issued this way and I do not feel that it should be changed.

I respectfully request that the Commission deny the application of North American Royalties for East-West spacing in this Section.

Yours very truly,

(Mrs. W. R. Reichert)

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the E½ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the E½ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the E½ of Section 15, it was necessary for us to request that the other parties who own leases in the E½ of Section 15 join us in the drilling of the well and concur in our designation of the E½ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the S½ of Section 15 rather than the E½. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the E½ of Section 15 as the Spacing Unit.

As a Lessor of Cardinal Petroleum Company or Mr. Moore, we feel that your interest in this matter coincides with that of Cardinal Petroleum and Mr. Moore. This is true since you do not own a mineral interest in the SW¼ of Section 15, which North American Royalties requests be joined with the SE¼ to make the S½ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the SW¼ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the SW¼. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the S½ as North American Royalties desires, rather than the E½ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the S½ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the E½ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 29 day of June, 1970.

Janet M Knudsen

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_____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 least 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,

(Mr. and Mrs. Frank Rummel)

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

Although your Lessee is North American Royalties, we feel that your interest in this matter coincides with that of Cardinal Petroleum Company and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

in the $SW\frac{1}{4}$. If the Spacing Unit for the well drilled by Cardinal and Mr. Moore is established as the $S\frac{1}{2}$ as North American Royalties desires, rather than the $E\frac{1}{2}$ as Cardinal desires, your interest in the well would be cut in half. No other well has been drilled in Section 15. We therefore believe that it is in your interest to join with Cardinal Petroleum Company and Mr. Moore in supporting our application.

We are aware that North American Royalties has sent to each of you a Communitization Agreement which they asked you to sign designating the $S\frac{1}{2}$ as the Spacing Unit. We request that this not be signed by you, but that instead you support Cardinal in our application. Rather than burden you at this time with our own Communitization Agreement which would designate the $E\frac{1}{2}$ of Section 15 as the Spacing Unit, we simply ask that you indicate your approval of Cardinal's application by signing one copy of this letter and returning it to the undersigned.

We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 23 day of June, 1970.

Frank Rummel Jr.

Margaret Rummel

June 30, 1970

Industrial Commission of North Dakota
State Capitol
Bismarck, North Dakota

Gentlemen:

This letter states my position in regard to the spacing of oil wells on Section 15, Township 140, Range 96.

I have approximately 20 acres of minerals under this and adjoining land in Section 14. I am opposed to the application of North American Royalties for North-South spacing in Section 15 and believe that North American Royalties, which I understand has a substantial leasehold in the Southeast Quarter where the well is located as well as leases on the Northwest Quarter of Section 15, the Southeast Quarter of Section 16, and the Northwest Quarter of Section 21, has sufficient protection without claiming one-half of the production from the well on the Southeast Quarter.

Yours Sincerely,

(Margaret Rummel)

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 30 day of June, 1970.

Tom Richmond

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this June day of 23, 1970.

Jakob Schenk

Katharena Schenk

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

Under the rules for drilling within the field, as set forth by the Commission, only one well can be drilled on each 320 acres and these wells must be located in the SW SE and the SE NW of each section. The reason for this type of spacing is to prevent the drilling of unnecessary wells, and to still provide all parties with an interest in the oil their equitable share of the production, and to protect the rights of all parties concerned. Since only two wells can be drilled in each section, all mineral owners such as yourself must share in the production from one well or the other.

When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

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We would also ask that you write to the North Dakota State Industrial Commission supporting Cardinal's Application and if any of you can attend the hearing to be held in Bismarck, North Dakota at the State Capitol Building on July 21, 1970, we would appreciate your being there to support us.

Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this Aug. day of 5, 1970.

Johnnie L. Sissiev

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

Enclosed you will find a copy of Cardinal Petroleum Company's application to the North Dakota State Industrial Commission to establish the $E\frac{1}{2}$ of Section 15, Township 140 North, Range 96 West as the Spacing Unit for the well recently completed by Cardinal and Joe Hiram Moore in the SW SE of Section 15. This land is located within the field outline of the Dickinson field.

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When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the $E\frac{1}{2}$ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the $E\frac{1}{2}$ of Section 15, it was necessary for us to request that the other parties who own leases in the $E\frac{1}{2}$ of Section 15 join us in the drilling of the well and concur in our designation of the $E\frac{1}{2}$ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the $S\frac{1}{2}$ of Section 15 rather than the $E\frac{1}{2}$. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the $E\frac{1}{2}$ of Section 15 as the Spacing Unit.

As a Lessor of Cardinal Petroleum Company or Mr. Moore, we feel that your interest in this matter coincides with that of Cardinal Petroleum and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

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Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 1st day of July, 1970.

Shirley Keith Shapiro

(also known as Keith Shapiro)

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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When Cardinal Petroleum Company filed their application to drill in the SW SE of Section 15 with the North Dakota State Geologist, the E½ was designated as the Spacing Unit. Our application was approved. The well was drilled, completed, and is presently producing approximately 500 barrels of oil per day. Since Cardinal and Mr. Moore have leases from only a portion of the people who own minerals in the E½ of Section 15, it was necessary for us to request that the other parties who own leases in the E½ of Section 15 join us in the drilling of the well and concur in our designation of the E½ of Section 15 as the Spacing Unit. North American Royalties, Inc. and their partner, Louis W. Hill, Jr., declined to join with Cardinal and Mr. Moore in the drilling of this well since they wanted the Spacing Unit to consist of the S½ of Section 15 rather than the E½. Consequently the well was drilled by Cardinal and Mr. Moore at their cost and expense and it is now necessary for Cardinal to ask the Commission to establish the E½ of Section 15 as the Spacing Unit.

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Since this is a matter which could involve a considerable amount of money to each of you, we would ask that you consult with your attorney and if either you or your attorney has any questions regarding this matter, please feel free to call me collect at the number set forth above.

Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 1 day of July, 1970.

Audrey K. Clyde

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

CARDINAL

RECEIVED
JUL 7 1970
CARDINAL

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 3 day of July, 1970.

Paul Jacky. Julian Tooley

June 24, 1970

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

RE: Application of Cardinal Petroleum Company for an Order Pooling all interest in the Spacing Unit described as the E½ of Section 15, Township 140 North, Range 96 West, in the Dickinson-Heath Pool, Stark County, North Dakota

Gentlemen:

Prior to notification from Cardinal Petroleum Company at the request of North American Royalties, Inc., I signed a Communitization Agreement concerning the Dickinson-Heath Pool, Stark County, North Dakota.

I have subsequently been advised that my best interest would be served if the Cardinal application were granted regarding this unitization rather than the application of North American.

The purpose of this letter, therefore, is to advise you that I hereby and by these presents do revoke my execution of the Communitization Agreement submitted by North American Royalties, Inc. and executed by me on or about the 22nd day of June, 1970.

By copy of this letter I am notifying both Cardinal and North American of this action.

Your assistance in this matter will be greatly appreciated.

Yours very truly,

Viola L. Younger

MRS. VIOLA YOUNGER

cc: Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

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

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 248-7324

June 22, 1970

Mineral Owners
East half Section 15 - Township 140 North - Range 96 West
Stark County, North Dakota

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Although your Lessee is North American Royalties, we feel that your interest in this matter coincides with that of Cardinal Petroleum Company and Mr. Moore. This is true since you do not own a mineral interest in the $SW\frac{1}{4}$ of Section 15, which North American Royalties requests be joined with the $SE\frac{1}{4}$ to make the $S\frac{1}{2}$ the Spacing Unit. Cardinal Petroleum Company and Mr. Moore are in the same position as you since we have no ownership in the oil in the $SW\frac{1}{4}$ of Section 15. On the other hand, both North American Royalties and their partner, Mr. Hill, own substantial interests

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Thank you for your cooperation.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Attorney

Approve Cardinal's Application

this 24 day of June, 1970.

Linda L Jacques

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 13

AUGUST 20, 1970

Edwin A. Noble
State Geologist

NORTH DAKOTA GEOLOGICAL SURVEY

UNIVERSITY STATION • GRAND FORKS, N. DAK. 58201 • AREA CODE 701—777-2231

August 3, 1970

Mr. Donald K. Roberts
Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Dear Mr. Roberts:

Check No. 41676 in the amount of $25.00 was received.

Enclosed is Permit No. 4956 to drill the Kadrmas et al #5-15 well, located in the SW NW of Section 15, T. 140N., R. 96W., Stark County, North Dakota.

Sincerely yours,

Edwin A. Noble

Edwin A. Noble
State Geologist

so
enclosures

FORM 1

Oil and Gas Division

North Dakota State Industrial Commission

APPLICATION TO DRILL

SEE INSTRUCTIONS OTHER SIDE

FILE THIS APPLICATION WITH THE STATE GEOLOGIST, UNIVERSITY OF NORTH DAKOTA, GRAND FORKS, N. D.

DATE July 29, 19 70

NAME Cardinal Petroleum Company
(Operator) (Driller)

SEND PERMIT TO: STREET P.O. Box 1077 CITY Billings STATE Montana 59103

DESCRIPTION OF LEASE

NAME OF LEASE OWNER Cardinal Petroleum Company

NAME OF FEE OWNER Kadrmas et al ACRES IN LEASE 320 WELL NO 5-15

SEC. 15 TWP. 140 North RANGE 96 West COUNTY Stark FIELD Dickinson

Distance from proposed location to (N) (S) Section Line 1980 feet and distance from (E) (W) section line 660 feet.

Nearest distance from proposed location to drilling unit line 660 feet. Distance from proposed location to nearest drilling, completed permitted or applied for well approximately 3800 feet. Depth to which propose to drill 8050 feet.

Acres in drilling unit 320. Elevation of (ground) ~~(KB)~~ ~~(DF)~~ above sea level 2607 feet.

REMARKS. Drilling unit to be the W½ Section 15-T140N-R96W.
Survey plat to be forwarded directly by surveyor

DATED THIS 29th DAY OF July, 19 70 BY Cardinal Petroleum Company

Donald K. Roberts

(Office)
Donald K. Roberts, Manager Land Department
OPERATOR

STATE OF Montana
COUNTY OF Yellowstone } ss

I, Donald K. Roberts, being first duly sworn on oath, state that I am the Manager, Land Department of Cardinal Petroleum Company and have knowledge of the facts and matter herein set forth and that the same are true and correct.

NAME Donald K. Roberts TITLE Manager, Land Department

SUBSCRIBED AND SWORN TO BEFORE ME THIS 29th DAY OF July, 19 70

PERMIT NO. 1955 33-089-00106

APPROVED August 3, 1970

DENIED

BY Original signed by Edwin A. Noble State Geologist
(State Geologist)

NOTARY PUBLIC, COUNTY OF Yellowstone

STATE OF Montana

My Commission Expires 5-1-72

Residing in Billings, Montana.

EXTRACT FROM
Minutes of a Meeting Of The North Dakota Industrial Commission
Held on Thursday, April 18, 1968, at 9:40 a.m.

It was moved by Attorney General Johanneson and seconded by Commissioner Dahl that the Commission direct the State Geologist to require the making and filing of mechanical logs, such as electric logs or radioactivity logs, on all wells in North Dakota. The motion was declared carried.

Cardinal Petroleum Company
Kadrmas #5-15

NOTICE

(1) Samples on this well (are) (~~are not~~) to be taken and forwarded to the State Geologist prepaid. Include all samples from Kinnelff to total depth.

(2) Cores taken on this well (are) (~~are not~~) to be forwarded to the State Geologist prepaid. Please include all cores.

If this well is carried below projected depth, the State Geologist or his representative must be informed. You will be notified at that time of the disposition to be made of samples and cores taken in the additional interval.

(3) This well site is in the area covered by Mr. Erling Brostuen, Field Inspector, who can answer any questions you may have on the Rules and Regulations. Office: Hapip Building, Box 997, Williston, North Dakota. 58801
Telephone Numbers: Office: Area Code, 701, 572-9707
Home: Area Code, 701, 572-2050

(4) Please send all logs (mechanical, electric, etc.) in TRIPLICATE.

Industrial Commission
of the State of North Dakota

SEE INSTRUCTIONS ON OTHER SIDE

FORM 4

Refer to Permit No. 4856

SUNDRY NOTICES AND REPORTS ON WELLS

1. Notice of Intention to Drill or Redrill	X	7. Report of Casing	
2. Notice of Intention to Change Plans		8. Report of Redrilling or Repair	
3. Notice of Intention to Pull Casing		9. Supplementary History	
4. Notice of Intention to Abandon Well		10. Well Potential Test	
5. Report of Water Shut-Off		11.	
6. Report of Shooting or Acidizing		12.	

(Indicate nature of notice by proper check mark in space above)

NAME OF LEASE Kadrmas et al Date July 29 19 70

WELL NO. 5-15 is located 1980 ft. from (N) (S) line and 660 ft. from the (E) (W) line of

Section 15 Township 140 North Range 96 West in Stark County

Dickinson Field Heath Pool. The elevation of the is feet above sea level.

Name and Address of Contractor, or Company which will do work is:

Cardinal Petroleum Company, P. O. Box 1077, Billings, Montana 59103

(DETAILS OF WORK)

(State names of, and expected depth of objective sands; show sizes, weight, and lengths of proposed casing, indicate mud weights, cementing points, and all other details of work).

1. Cardinal Petroleum Company plans to drill an 8050' Heath test at the above location with rotary tools.
2. 8-5/8" surface casing will be set at 600' and cemented to surface.
3. If long string is run, either 5½" or 4½" production casing will be used and cemented in accordance with existing regulations.
4. Objectives include all potentially productive oil and/or gas horizons from surface to total depth.
5. Survey plat will be forwarded directly to Grand Forks by surveyor

Company CARDINAL PETROLEUM COMPANY

Address Box 1077, Billings, Montana 59103

By Donald K. Roberts

Title Manager, Land Department

Do not write in this space

Approved August 3, 19 70

By Original signed by F. E. Wilbarn

Title Assistant Petroleum Engineer

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet.
Exhibit 14
Identified by Donald Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 14

AUGUST 20, 1970

P. O. BOX 1077
BILLINGS, MONTANA
59103

AREA CODE 406
PHONE 252-4630

August 5, 1970

Mr. Louis W. Hill, Jr.
West 1453 First National Bank Bldg.
St. Paul, Minnesota 55101

North American Royalties, Inc.
P. O. Box 1476
Bismarck, North Dakota 58501
Att'n: Mr. Arthur C. Bauer

Continental Oil Company
Pacific Western Life Bldg.
152 North Durbin
Casper, Wyoming 82601
Att'n: W. C. Blackburn

Helmerich & Payne
Utica at Twenty-First
Tulsa, Oklahoma 74114
Att'n: Mr. W. A. Black

Mr. Huston Huffman
1207 Petroleum Club Bldg.
Oklahoma City, Oklahoma 73102

Re: Pooling Agreement
$W\frac{1}{2}$ Section 15-140N-96W
Stark County, North Dakota

Gentlemen:

Cardinal Petroleum Company proposes to drill a Tyler sand test in the $SW\frac{1}{4}NW\frac{1}{4}$ of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota, as a development well in the Dickinson Field. The spacing unit for this well will consist of the $W\frac{1}{2}$ of said Section 15.

Cardinal proposes that a Pooling Agreement be entered into in order to pool all interests in the $W\frac{1}{2}$ of Section 15 and that an Operating Agreement be entered into, naming Cardinal Petroleum Company as Operator for the proposed well.

From information obtained from the County records, the Working Interests in the $W\frac{1}{2}$ of Section 15 are as follows:

Cardinal Petroleum Company	50.000000%
Louis W. Hill, Jr.	13.671875%
North American Royalties, Inc.	19.921875%
Continental Oil Company	2.343750%
Helmerich & Payne	11.718750%
Huston Huffman	2.343750%

This is based on our understanding that Helmerich & Payne is the successor in interest to White Eagle Oil Company and that Continental is the successor in interest to San Jacinto Petroleum Company.

A drilling permit for the drilling of this well was approved by the North Dakota State Geologist on August 3, 1970. The total depth of the proposed well is 8,050 feet, to adequately test the Heath formation. The proposed well is a west offset to the No. 15-15 Schank well recently completed by Cardinal which is currently producing 400 barrels of oil per day.

Enclosed for your examination and approval are two copies of an AFE for the drilling and completion of the well, together with one copy of an Accounting Procedure which would become a part of the Joint Operating Agreement. The AFE sets forth each of your estimated costs for both a dry hole and a completed well.

If you agree with our proposal to drill this well, please sign and return one copy of the AFE within ten days so that rig activity can be properly scheduled. An Operating Agreement will then be prepared for the execution of all Working Interest Owners.

Thank you for your cooperation in this matter and, if you should have any questions concerning our proposal, please contact the undersigned.

Very truly yours,

CARDINAL PETROLEUM COMPANY

Donald K. Roberts
Manager, Land Department

DKR/ah
Enclosures

CARDINAL PETROLEUM COMPANY

ESTIMATED WELL COST

AUTHORIZATION FOR EXPENDITURE

WELL NAME KADRMAS #5-15 AFE NO. 72970

FIELD Dickinson ESTIMATED BY BB

LOCATION SW¼NW¼ Sec. 15-140N-96W

Stark County, North Dakota

DRILLING COSTS		DRY HOLE	COMPLETED WELL
Survey & Stake location		90.00	
Permit		25.00	
Make location & Roads		600.00	
Pits		300.00	
Moving & Rigging		Contractor	
Footage Drilling ***	$4.75 x 8050'	38,238.00	
Mud		6,500.00	
Water	In excess of $1500.00	4,000.00	
Daywork, Circulating, Logging, etc.	24 hour @ $71.00	1,704.00	
Surface Casing	600' 8-5/8" 24#	2,040.00	
Cementing Service		450.00	
Cement	350 sx	1,125.00	
Shoe, Centralizer, etc.		150.00	
W.O.C. Time		Contractor	
Coring, Service & Rig Time	One 50' core	2,500.00	
DST, Service & Rig Time	One DST	2,000.00	
Electrical Logging	L-GR-Surface to T.D. FDC - minimum run	3,100.00	
Micro-Device		N.R.	
Plug and Abandon		Contractor	
Cementing Service		450.00	
Cement	125 sx	400.00	
Misc. Trucking		200.00	
Geologist Service		1,000.00	
Fill Pits and Level Loc.		500.00	
Waiver of Damages		600.00	
Other		-	
TOTAL DRY HOLE COST		$65,972.00	

***Based on field rig move - summer or fall.

CARDINAL PETROLEUM COMPANY - ESTIMATED WELL COST

WELL NAME KADRMAS #5-15

		DRY HOLE	COMPLETED WELL
COMPLETION COSTS			
Casing, Oil String	8050' 5½" 14, 15.5 & 17#		18,850.00
Shoe, Float Collar, Scratchers, Centralizers			800.00
Cementing Service			700.00
Cement	Includes Hydrazine		1,800.00
W.O.C. Time	No Cost		-
Well Head & Valves	Includes stuffing box & polish rod		900.00
Tubing	8000' 2-7/8" OD		7,650.00
Tubing Subs, Perf Nipple, etc			200.00
Correlation Log			600.00
Perforating			800.00
Packer			400.00
Load Oil	Hauling only		200.00
Acidize	500 Gal. cleanup acid		700.00
Fracture	If required		5,000.00
Rig Time, Completion			2,500.00
Pumping Unit	912 Lufkin		16,350.00
Pumping Engine	100 HP Elec.		1,500.00
Sucker Rods	8000' 1" 7/8" 3/4"		5,200.00
Downhole Pump	2½" tubing liner pump		800.00
Unit Foundation	Poured concrete		700.00
Engine House	None		-
Tanks	3 - 400's with walkways		7,400.00
Heater - Treater	7 x 15 Connors Horz		5,900.00
Treater Base	Pre-Stressed Conc.		140.00
Treater Insulation & Housing	Includes battery insulation		3,500.00
Separator	None		-
Line Pipe			500.00
Fittings, Tank Battery & Flowlines	Includes circ. pump and installation of heat cables & thermostatic controls		7,000.00
Meters and/or Meter Run	None		-

WELL NAME KADRMAS #5-15

		DRY HOLE	COMPLETED WELL
COMPLETION COSTS - Cont'd			
Contract Labor	Erect Pumping Unit		500.00
Lease Road	Grading & Scoria		1,500.00
Salt Water Disposal Pit			300.00
Tank Grade, Gravel	Scoria		100.00
Trucking	Misc.		500.00
Welding			300.00
Special Tools, Bits, etc	None		-
Electrification			500.00
Engineering Service			300.00
Production Foreman Service			800.00
Other	Misc.		300.00
TOTAL ESTIMATED COMPLETED WELL COST			$160,312.00

Working Interest Owner	Interest	Share of Dry Hole Cost	Share of Completed Well Cost
Cardinal Petroleum Company	50.000000%	$ 32,986.00	$ 80,156.00
Louis W. Hill, Jr.	13.671875%	9,019.63	21,917.70
North American Royalties, Inc.	19.921875%	13,142.88	31,937.20
Continental Oil Company	2.343750%	1,546.18	3,757.23
Helmerich & Payne	11.718750%	7,731.13	18,786.64
Huston Huffman	2.343750%	1,546.18	3,757.23
	100.000000%	$ 65,972.00	$160,312.00

AGREED TO AND ACCEPTED this _____ day of

_____, 1970.

_____

AMERICAN 601 ROSS-HARTIN CO. TULSA 7, OKLAHOMA

COPAS — 1962
Recommended by the Council of Petroleum Accountants Societies of North America.

EXHIBIT " "

Attached to and made a part of _____

_____

_____

_____

ACCOUNTING PROCEDURE

(JOINT OPERATIONS)

I. GENERAL PROVISIONS

1. Definitions

"Joint Property" shall mean the real and personal property subject to the agreement to which this "Accounting Procedure" is attached.

"Joint Operations" shall mean all operations necessary or proper for the development, operation, protection and maintenance of the Joint Property.

"Operator" shall mean the party designated to conduct the Joint Operations.

"Non-Operators" shall mean the nonoperating parties, whether one or more.

"Joint Account" shall mean the account showing the charges and credits accruing because of the Joint Operations and which are to be shared by the Parties.

"Parties" shall mean Operator and Non-Operators.

"Material" shall mean personal property, equipment or supplies acquired or held for use on the Joint Property.

"Controllable Material" shall mean material which at the time is so classified in the Material Classification Manual as most recently recommended by the Council of Petroleum Accountants Societies of North America.

2. Conflict with Agreement

In the event of a conflict between the provisions of this Accounting Procedure and the provisions of the agreement to which this Accounting Procedure is attached, the provisions of the agreement shall control.

3. Collective Action by Non-Operators

Where an agreement or other action of Non-Operators is expressly required under this Accounting Procedure and if the agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, the agreement or action of a majority in interest of the Non-Operators shall be controlling on all Non-Operators.

4. Statements and Billings

Operator shall bill Non-Operators on or before the last day of each month for their proportionate share of costs and expenses, for the preceding month. Such bills will be accompanied by statements reflecting the total charges and credits as set forth under Subparagraph C below:

A. Statement in detail of all charges and credits to the Joint Account.

B. Statement of all charges and credits to the Joint Account, summarized by appropriate classifications indicative of the nature thereof.

C. Statement of all charges and credits to the Joint Account summarized by appropriate classifications indicative of the nature thereof, except that items of Controllable Material and unusual charges and credits shall be detailed.

5. Payment and Advances by Non-Operators

Each Non-Operator shall pay its proportion of all such bills within fifteen (15) days after receipt thereof. If payment is not made within such time, the unpaid balance shall bear interest at the rate of ~~six~~ per cent (~~6%~~) per annum until paid. nine (9%)

6. Adjustments

Payment of any such bills shall not prejudice the right of any Non-Operators to protest or question the correctness thereof; provided however, all bills and statements rendered to Non-Operators by Operator during any calendar year shall conclusively be presumed to be true and correct after twenty-four (24) months following the end of any such calendar year, unless within the said twenty-four (24) month period a Non-Operator takes written exception thereto and makes claim on Operator for adjustment. No adjustment favorable to Operator shall be made unless it is made within the same prescribed period. The provisions of this paragraph shall not prevent adjustments resulting from a physical inventory of the Joint Property as provided for in Section VII.

7. Audits

A Non-Operator, upon notice in writing to Operator and all other Non-Operators, shall have the right to audit Operator's accounts and records relating to the accounting hereunder for any calendar year within the twenty-four (24) month period following the end of such calendar year; provided however, the making of an audit shall not extend the time for the taking of written exception to and the adjustment of accounts as provided for in Paragraph 6 of this Section I. Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct joint or simultaneous audits in a manner which will result in a minimum of inconvenience to the Operator.

II. DIRECT CHARGES

Subject to limitations hereinafter prescribed, Operator shall charge the Joint Account with the following items:

1. Rentals and Royalties

Delay or other rentals and royalties when such rentals and royalties are paid by Operator for the Joint Account of the Parties.

2. Labor

A. Salaries and wages of Operator's employees directly engaged on the Joint Property in the conduct of the Joint Operations, and salaries or wages of technical employees who are temporarily assigned to and directly employed on the Joint Property.

B. Operator's cost of holiday, vacation, sickness and disability benefits and other customary allowances paid to the employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II and Paragraph 1 of Section III; except that in the case of those employees only a pro rata portion of whose salaries and wages are chargeable to the Joint Account under Paragraph 1 of Section III, not more than the same pro rata portion of the benefits and allowances herein provided for shall be charged to the Joint Account. Cost under this Paragraph 2B may be charged on a "when and as paid basis" or by "percentage assessment" on the amount of salaries and wages chargeable to the Joint Account under Paragraph 2A of this Section II and Paragraph 1 of Section III. If percentage assessment is used, the rate shall be based on the Operator's cost experience.

C. Expenditures or contributions made pursuant to assessments imposed by governmental authority which are applicable to Operator's labor cost of salaries and wages chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II and Paragraph 1 of Section III.

D. Reasonable personal expenses of those employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II and for which expenses the employees are reimbursed under Operator's usual practice.

3. **Employee Benefits**
Operator's current cost of established plans for employees' group life insurance, hospitalization, pension, retirement, stock purchase, thrift, bonus, and other benefit plans of a like nature, applicable to Operator's labor cost; provided however, the total of such charges shall not exceed ten percent (10%) of Operator's labor costs chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II and Paragraph 1 of Section III.

4. **Material**
Material purchased or furnished by Operator for use on the Joint Property. So far as it is reasonably practical and consistent with efficient and economical operation, only such Material shall be purchased for or transferred to the Joint Property as may be required for immediate use; and the accumulation of surplus stocks shall be avoided.

5. **Transportation**
Transportation of employees and Material necessary for the Joint Operations but subject to the following limitations:
A. If Material is moved to the Joint Property from the Operator's warehouse or other properties, no charge shall be made to the Joint Account for a distance greater than the distance from the nearest reliable supply store or railway receiving point where like material is available, except by agreement with Non-Operators.
B. If surplus Material is moved to Operator's warehouse or other storage point, no charge shall be made to the Joint Account for a distance greater than the distance to the nearest reliable supply store or railway receiving point, except by agreement with Non-Operators. No charge shall be made to Joint Account for moving Material to other properties belonging to Operator, except by agreement with Non-Operators.
C. In the application of subparagraphs A and B above, there shall be no equalization of actual gross trucking costs of $100 or less.

6. **Services**
A. The cost of contract services and utilities procured from outside sources other than services covered by Paragraph 8 of this Section II and Paragraph 2 of Section III.
B. Use and service of equipment and facilities furnished by Operator as provided in Paragraph 5 of Section IV.

7. **Damages and Losses to Joint Property**
All costs or expenses necessary for the repair or replacement of Joint Property made necessary because of damages or losses incurred by fire, flood, storm, theft, accident, or any other cause, except to the extent that the damage or loss could have been avoided through the exercise of reasonable diligence on the part of Operator. Operator shall furnish Non-Operators written notice of damages or losses incurred as soon as practicable after a report thereof has been received by Operator.

8. **Legal Expense**
All costs and expenses of handling, investigating and settling litigation or claims arising by reason of the Joint Operations or necessary to protect or recover the Joint Property, including, but not limited to, attorneys' fees, court costs, cost of investigation or procuring evidence and amounts paid in settlement or satisfaction of any such litigation or claims; provided, (a) no charge shall be made for the services of Operator's legal staff or other regularly employed personnel (such services being considered to be Administrative Overhead under Section III), except by agreement with Non-Operators, and (b) no charge shall be made for the fees and expenses of outside attorneys unless the employment of such attorneys is agreed to by Operator and Non-Operators.

9. **Taxes**
All taxes of every kind and nature assessed or levied upon or in connection with the Joint Property, the operation thereof, or the production therefrom, and which taxes have been paid by the Operator for the benefit of the Parties.

10. **Insurance Premiums**
Premiums paid for insurance required to be carried on the Joint Property for the protection of the Parties.

11. **Other Expenditures**
Any other expenditure not covered or dealt with in the foregoing provisions of this Section II, or in Section III, and which is incurred by the Operator for the necessary and proper conduct of the Joint Operations.

III. INDIRECT CHARGES

Operator may charge the Joint Account for indirect costs either by use of an allocation of district expense items plus a fixed rate for administrative overhead, and plus the warehousing charges, all as provided for in Paragraphs 1, 2, and 3 of this Section III OR by combining all three of said items under the fixed rate provided for in Paragraph 4 of this Section III, as indicated next below:

OPERATOR SHALL CHARGE THE JOINT ACCOUNT UNDER THE TERMS OF:

☐ Paragraphs 1, 2 and 3. (Allocation of district expense plus fixed rate for administrative overhead plus warehousing.)
☒ Paragraph 4. (Combined fixed rate)

1. **District Expense**
Operator shall charge the Joint Account with a pro rata portion of the salaries, wages and expenses of Operator's production superintendent and other employees serving the Joint Property and other properties of the Operator in the same operating area, whose time is not allocated directly to the properties, and a pro rata portion of the cost of maintaining and operating a production office known as Operator's _____ office located at or near _____ (or a comparable office if location changed), and necessary sub-offices (if any), maintained for the convenience of the above-described office, and all necessary camps, including housing facilities for employees if required, used in connection with the operations of the Joint Property and other properties in the same operating area. The expense of, less any revenue from, such facilities may, at the option of Operator, include depreciation of investment or a fair monthly rental in lieu of depreciation. Such charges shall be apportioned to all properties served on some equitable basis consistent with Operator's accounting practice.

2. **Administrative Overhead**
Operator shall charge administrative overhead to the Joint Account at the following rates, which charge shall be in lieu of the cost and expense of all offices of the Operator not covered by Paragraph 1 of this Section III, including salaries, wages and expenses of personnel assigned to such offices. Such charges shall be *in addition* to the salaries, wages and expenses of employees of Operator authorized to be charged as direct charges as provided in Paragraphs 2 and 8 of Section II.

WELL BASIS (RATE PER WELL PER MONTH)

	DRILLING WELL RATE (Use Total Depth)	PRODUCING WELL RATE (Use Current Producing Depth)		
Well Depth	Each Well	First Five	Next Five	All Wells Over Ten

The cost and expense of services from outside sources in connection with matters of taxation, traffic, accounting, or matters before or involving governmental agencies shall be considered as included in the overhead rates provided for in this Paragraph 2 of Section III, unless such cost and expense are agreed upon between Operator and Non-Operators as a direct charge to the Joint Account.

3. Operator's Fully Owned Warehouse Operating and Maintenance Expense
(Describe fully the agreed procedure to be followed by the Operator.)

4. Combined Fixed Rates
Operator shall charge the Joint Account for the services covered by Paragraph 1, 2 and 3 of this Section III, the following fixed per well rates;

WELL BASIS (RATE PER WELL PER MONTH)

Well Depth	DRILLING WELL RATE (Use Total Depth) Each Well	PRODUCING WELL RATE (Use Current Producing Depth) First Five	Next Five	All Wells Over Ten
0'-3,500'	$ 300	$ 145	$ 140	$ 135
3,501'-7,500'	350	160	155	170
7,501'-12,000'	400	175	170	165
over 12,000'	450	190	185	180

Said fixed rate (shall) (shall not) include salaries and expenses of production foremen.

5. Application of Administrative Overhead or Combined Fixed Rates
The following limitations, instructions and charges shall apply in the application of the per well rates as provided under either Paragraph 2 or Paragraph 4 of this Section III:
A. Charges for drilling wells shall begin on the date each well is spudded and terminate on the date the drilling or completion rig is released, whichever is later, except that no charge shall be made during the suspension of drilling operations for fifteen (15) or more consecutive days.
B. The status of wells shall be as follows:
(1) Producing gas wells, injection wells for recovery operations, water supply wells utilized for water flooding operations and salt water disposal wells shall be considered the same as producing wells.
(2) Wells permanently shut down but on which plugging operations are deferred shall be dropped from the well schedule at the time the shutdown is effected. When such a well is plugged a charge shall be made at the producing well rates.
(3) Wells being plugged back, drilled deeper, converted to a source or input well, or which are undergoing any type of workover that requires the use of a drilling or workover rig shall be considered the same as drilling wells.
(4) Temporarily shut-down wells, which are not produced or worked upon for a period of a full calendar month, shall not be included in the well schedule, provided however, wells shut in by governmental regulatory body shall be included in the well schedule only in the event the allowable production is transferred to some other well or wells on the Joint Property. In the event of a unit allowable, all wells capable of producing will be counted in determining the charge.
(5) Gas wells shall be included in the well schedule if directly connected to a permanent sales outlet even though temporarily shut in due to overproduction or failure of purchaser to take the allowed production.
(6) Wells completed in multiple horizons, in which the production is not commingled down hole, shall be considered as a producing well for each separately producing horizon.
C. The well rates shall apply to the total number of wells being drilled or operated under the agreement to which this Accounting Procedure is attached, irrespective of individual leases.
~~D. The well rates shall be adjusted on the first day of April of each year following the effective date of the agreement to which this Accounting Procedure is attached. The adjustment shall be computed by multiplying the rate currently in use by the percentage increase or decrease in the average weekly earnings of Crude Petroleum and Gas Production Workers for the last calendar year compared to the preceding calendar year as shown by "The Index of Average Weekly Earnings of Crude Petroleum and Gas Production Workers" as published by the United States Department of Labor, Bureau of Labor Statistics. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.~~

6. For the construction of compressor plants, water stations, secondary recovery systems, salt water disposal facilities, and other such projects, as distinguished from the more usual drilling and producing operations, Operator in addition to the Administrative Overhead or Combined Fixed Rates provided for in Paragraph 2 and 4 of this Section III, shall charge the Joint Account with an additional overhead charge as follows:
A. Total cost less than $25,000, no charge.
B. Total cost more than $25,000 but less than $100,000, * % of total cost.
C. Total cost of $100,000 or more, * % of the first $100,000 plus * % of all over $100,000 of total cost.
*To be negotiated at a later date
Total cost shall mean the total gross cost of any one project. For the purpose of this Paragraph the component parts of a single project shall not be treated separately and the cost of drilling wells shall be excluded.
7. The specific rates provided for in this Section III may be amended from time to time by mutual agreement between the Parties hereto if, in practice, the rates are found to be insufficient or excessive.

IV. BASIS OF CHARGES TO JOINT ACCOUNT

Subject to the further provisions of this Section IV, Operator will procure all Material and services for the Joint Property. At the Operator's option, Non-Operator may supply Material or services for the Joint Property.

1. Purchases
Material purchased and service procured shall be charged at the price paid by Operator after deduction of all discounts actually received.
2. Material furnished from Operator's Warehouse or Other Properties
A. New Material (Condition "A")
(1) Tubular goods, two inch (2") and over, shall be priced on Eastern Mill base (i. e. Youngstown, Ohio; Lorain, Ohio; and Indiana Harbor, Indiana) on a minimum carload basis effective at date of movement and f. o. b. railway receiving point nearest the Joint Property, regardless of quantity. In equalized hauling charges, Operator is permitted to include ten cents (10c) per hundred-weight on all tubular goods furnished from his stocks in lieu of loading and unloading costs sustained.
(2) Other Material shall be priced at the current replacement cost of the same kind of Material, effective at date of movement and f. o. b. the supply store or railway receiving point nearest the Joint Property where Material of the same kind is available.
(3) The Joint Account shall not be credited with cash discounts applicable to prices provided for in this Paragraph 2 of Section IV.
B. Used Material (Condition "B" and "C")
(1) Material in sound and serviceable condition and suitable for reuse without reconditioning, shall be classified as Condition "B" and priced at seventy-five per cent (75%) of the current price of new Material.
(2) Material which cannot be classified as Condition "B" but which,
(a) After reconditioning will be further serviceable for original function as good secondhand Material (Condition "B"), or
(b) Is serviceable for original function but substantially not suitable for reconditioning, shall be classified as Condition "C" and priced at fifty per cent (50%) of current new price.
(3) Obsolete Material or Material which cannot be classified as Condition "B" or Condition "C" shall be priced at a value commensurate with its use. Material no longer suitable for its original purpose but usable for

some other purpose, shall be priced on a basis comparable with that of items normally used for such other purpose.

(4) Material involving erection costs shall be charged at applicable percentage of the current knocked-down price of new Material.

3. **Premium Prices**
Whenever Material is not readily obtainable at prices specified in Paragraphs 1 and 2 of this Section IV because of national emergencies, strikes or other unusual causes over which the Operator has no control, the Operator may charge the Joint Account for the required Material at the Operator's actual cost incurred in procuring such Material, in making it suitable for use, and in moving it to the Joint Property, provided, that notice in writing is furnished to Non-Operators of the proposed charge prior to billing Non-Operators for such Material. Each Non-Operator shall have the right, by so electing and notifying Operator within 10 days after receiving notice from Operator, to furnish in kind all or part of his share of such Material suitable for use and acceptable to Operator.

4. **Warranty of Material Furnished by Operator**
Operator does not warrant the Material furnished. In case of defective Material, credit shall not be passed to the Joint Account until adjustment has been received by Operator from the manufacturers or their agents.

5. **Equipment and Facilities Furnished by Operator**
A. Operator shall charge the Joint Account for use of equipment and facilities at rates commensurate with cost of ownership and operation. Such rates shall include cost of maintenance, repairs, other operating expense, insurance, taxes, depreciation and interest on investment not to exceed six per cent (6%) per annum, provided such rates shall not exceed those currently prevailing in the immediate area within which the Joint Property is located. Rates for automotive equipment shall generally be in line with the schedule of rates adopted by the Petroleum Motor Transport Association, or some other recognized organization, as recommeded uniform charges against Joint Property operations. Rates for laboratory services shall not exceed those currently prevailing if performed by outside service laboratories. Rates for trucks, tractors and well service units may include wages and expenses of operator.
B. Whenever requested, Operator shall inform Non-Operators in advance of the rates it proposes to charge.
C. Rates shall be revised and adjusted from time to time when found to be either excessive or insufficient.

V. DISPOSAL OF MATERIAL

The Operator may purchase, but shall be under no obligation to purchase, interest of Non-Operators in surplus Condition "A" or "B" Material. The disposition of surplus Controllable Material, not purchased by Operator, shall be subject to agreement between Operator and Non-Operators, provided Operator shall dispose of normal accumulations of junk and scrap Material either by transfer or sale from the Joint Property.

1. **Material Purchased by the Operator or Non-Operators**
Material purchased by either the Operator or Non-Operators shall be credited by the Operator to the Joint Account for the month in which the Material is removed by the purchaser.

2. **Division in Kind**
Division of Material in kind, if made between Operator and Non-Operators, shall be in proportion to the respective interests in such Material. The Parties will thereupon be charged individually with the value of the Material received or receivable. Proper credits shall be made by the Operator in the monthly statement of operations.

3. **Sales to Outsiders**
Sales to outsiders of Material from the Joint Property shall be credited by Operator to the Joint Account at the net amount collected by Operator from vendee. Any claim by vendee related to such sale shall be charged back to the Joint Account if and when paid by Operator.

VI. BASIS OF PRICING MATERIAL TRANSFERRED FROM JOINT ACCOUNT

Material purchased by either Operator or Non-Operators or divided in kind, unless otherwise agreed to between Operator and Non-Operators shall be priced on the following basis:

1. **New Price Defined**
New price as used in this Section VI shall be the price specified for New Material in Section IV.

2. **New Material**
New Material (Condition "A"), being new Material procured for the Joint Property but never used, at one hundred per cent (100%) of current new price (plus sales tax if any).

3. **Good Used Material**
Good used Material (Condition "B"), being used Material in sound and serviceable condition, suitable for reuse without reconditioning:
A. At seventy-five per cent (75%) of current new price if Material was charged to Joint Account as new, or
B. At sixty-five per cent (65%) of current new price if Material was originally charged to the Joint Account as secondhand at seventy-five percent (75%) of new price.

4. **Other Used Material**
Used Material (Condition "C"), at fifty per cent (50%) of current new price, being used Material which:
A. Is not in sound and serviceable condition but suitable for reuse after reconditioning, or
B. Is serviceable for original function but not suitable for reconditioning.

5. **Bad-Order Material**
Material (Condition "D"), no longer suitable for its original purpose without excessive repair cost but usable for some other purpose at a price comparable with that of items normally used for such other purpose.

6. **Junk Material**
Junk Material (Condition "E"), being obsolete and scrap Material, at prevailing prices.

7. **Temporarily Used Material**
When the use of Material is temporary and its service to the Joint Property does not justify the reduction in price as provided for in Paragraph 3 B of this Section VI, such Material shall be priced on a basis that will leave a net charge to the Joint Account consistent with the value of the service rendered.

VII. INVENTORIES

The Operator shall maintain detailed records of Material generally considered controllable by the Industry.

1. **Periodic Inventories, Notice and Representation**
At reasonable intervals, inventories shall be taken by Operator of the Joint Account Material, which shall include all such Material as is ordinarily considered controllable. Written notice of intention to take inventory shall be given by Operator at least thirty (30) days before any inventory is to begin so that Non-Operators may be represented when any inventory is taken. Failure of Non-Operators to be represented at an inventory shall bind Non-Operators to accept the inventory taken by Operator, who shall in that event furnish Non-Operators with a copy thereof.

2. **Reconciliation and Adjustment of Inventories**
Reconciliation of inventory with charges to the Joint Account shall be made, and a list of overages and shortages shall be jointly determined by Operator and Non-Operators. Inventory adjustments shall be made by Operator with the Joint Account for overages and shortages, but Operator shall be held accountable to Non-Operator only for shortages due to lack of reasonable diligence.

3. **Special Inventories**
Special inventories may be taken whenever there is any sale or change of interest in the Joint Property. It shall be the duty of the party selling to notify all other Parties as quickly as possible after the transfer of interest takes place. In such cases, both the seller and the purchaser shall be governed by such inventory.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet.
Exhibit 15
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 15

AUGUST 20, 1970

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

August 11, 1970

RECEIVED
AUG 13 1970
CARDINAL

Re: Tyler Sand Test
SWNW 15-140N-96W
Stark County, North Dakota
Dickinson Field

Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Attention: Donald K. Roberts
Manager, Land Department

Dear Mr. Roberts:

We are in receipt of your letter dated August 5, 1970, with attached Authorization for Expenditure covering the drilling of the captioned proposed well.

We note from your letter that you propose the spacing unit for this well to be the W½ of said section 15. In view of the fact that proper spacing for the 15-15 Schank well completed in the SWSE of 15 has not been determined, and will not be determined until after the August 20, 1970 Industrial Commission hearings, North American feels that it is premature to consider the drilling of a well in the SWNW of 15-140-96.

Very truly yours,

NORTH AMERICAN ROYALTIES, INC.

Arthur C. Bauer

By: Arthur C. Bauer

ACB:ms

cc: Louis W. Hill, Jr.
Huston Huffman
Continental Oil Company
Helmerich & Payne

RECEIVED
AUG 14 1970
CARDINAL

CONTINENTAL OIL COMPANY

PACIFIC WESTERN LIFE BUILDING
152 NORTH DURBIN
CASPER, WYOMING 82601

W. C. BLACKBURN
Division Manager
Production Department

AREA CODE 307
PHONE 234-7311

August 10, 1970

Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Attention: Mr. Donald K. Roberts

Re: Pooling Agreement
W 1/2 Section 15-140N-96W
Stark County, North Dakota
RE-414-CF

Gentlemen:

We have received your AFE to drill a Tyler sand test in the SW 1/4 NW 1/4 of Section 15, Township 140 North, Range 96 West, Stark County, North Dakota. We are going to withhold approval of this AFE pending the outcome of the hearing on the subject section scheduled for August 20th in Bismarck. We will be in a position to give you our decision on this proposal very shortly after the order finalizing the spaced area for the well in the E 1/2 of Section 15 has been made public.

Yours very truly,

W. C. Blackburn

pce

LOUIS W. HILL, JR.
1455 W. FIRST NATIONAL BANK BUILDING
ST. PAUL, MINNESOTA 55101
224-4884

August 12, 1970

RECEIVED
AUG 17 1970
CARDINAL

Mr. Donald K. Roberts,
Manager, Land Department,
Cardinal Petroleum Company,
P. O. Box 1077,
Billings, Montana 59103

Re: Pooling Agreement,
W½ Section 15-140N-96W
Stark County, North Dakota

Dear Mr. Roberts:

In your letter of August 5th you indicate that Cardinal Petroleum Company proposes to drill a Tyler sand test in the SW¼NW¼, Section 15, Township 140 North, Range 96 West, Stark County, North Dakota, and that the spacing unit will consist of the W½ of Section 15.

I do not feel that I can approve a pooling agreement or a drilling at a time when there is a controversy over the spacing involving the Schank well. As you know I favor a spacing of the S½ of Section 15 ~~or other~~ than the East ½ as now designated.

In addition, from the information I have, it appears th at the area selected for the Tyler sand test (SW¼NW¼ of Section 15) is not a desirable one.

I understand the question of spacing for the Schank well will be considered by the Industrial Commission on August 20th and I will be interested in its decision.

Very truly yours,

Louis W. Hill Jr.

lwhjr/s/p

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet.
Exhibit 16
Identified by Don Roberts

CARDINAL PETROLEUM COMPANY

BILLINGS, MONTANA

Prepared by

Donald K. Roberts

CASE NO. 1005

EXHIBIT NO. 16

AUGUST 20, 1970

Recommended by the Council of Petroleum Accountants Societies of North America.

EXHIBIT " "

CARDINAL PETROLEUM COMPANY'S PROPOSED ACCOUNTING PROCEDURE FOR THE 15-15 SCHANK WELL, LOCATED IN THE SW¼SE¼ SECTION 15-140N-96W, STARK COUNTY, NORTH DAKOTA

ACCOUNTING PROCEDURE
(JOINT OPERATIONS)

I. GENERAL PROVISIONS

1. **Definitions**
"Joint Property" shall mean the real and personal property subject to the agreement to which this "Accounting Procedure" is attached.
"Joint Operations" shall mean all operations necessary or proper for the development, operation, protection and maintenance of the Joint Property.
"Operator" shall mean the party designated to conduct the Joint Operations.
"Non-Operators" shall mean the nonoperating parties, whether one or more.
"Joint Account" shall mean the account showing the charges and credits accruing because of the Joint Operations and which are to be shared by the Parties.
"Parties" shall mean Operator and Non-Operators.
"Material" shall mean personal property, equipment or supplies acquired or held for use on the Joint Property.
"Controllable Material" shall mean material which at the time is so classified in the Material Classification Manual as most recently recommended by the Council of Petroleum Accountants Societies of North America.

2. **Conflict with Agreement**
In the event of a conflict between the provisions of this Accounting Procedure and the provisions of the agreement to which this Accounting Procedure is attached, the provisions of the agreement shall control.

3. **Collective Action by Non-Operators**
Where an agreement or other action of Non-Operators is expressly required under this Accounting Procedure and if the agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, the agreement or action of a majority in interest of the Non-Operators shall be controlling on all Non-Operators.

4. **Statements and Billings**
Operator shall bill Non-Operators on or before the last day of each month for their proportionate share of costs and expenses, for the preceding month. Such bills will be accompanied by statements reflecting the total charges and credits as set forth under Subparagraph C below:
A. Statement in detail of all charges and credits to the Joint Account.
B. Statement of all charges and credits to the Joint Account, summarized by appropriate classifications indicative of the nature thereof.
C. Statement of all charges and credits to the Joint Account summarized by appropriate classifications indicative of the nature thereof, except that items of Controllable Material and unusual charges and credits shall be detailed.

5. **Payment and Advances by Non-Operators**
Each Non-Operator shall pay its proportion of all such bills within fifteen (15) days after receipt thereof. If payment is not made within such time, the unpaid balance shall bear interest at the rate of nine (9%) per cent per annum until paid.

6. **Adjustments**
Payment of any such bills shall not prejudice the right of any Non-Operators to protest or question the correctness thereof; provided however, all bills and statements rendered to Non-Operators by Operator during any calendar year shall conclusively be presumed to be true and correct after twenty-four (24) months following the end of any such calendar year, unless within the said twenty-four (24) month period a Non-Operator takes written exception thereto and makes claim on Operator for adjustment. No adjustment favorable to Operator shall be made unless it is made within the same prescribed period. The provisions of this paragraph shall not prevent adjustments resulting from a physical inventory of the Joint Property as provided for in Section VII.

7. **Audits**
A Non-Operator, upon notice in writing to Operator and all other Non-Operators, shall have the right to audit Operator's accounts and records relating to the accounting hereunder for any calendar year within the twenty-four (24) month period following the end of such calendar year; provided however, the making of an audit shall not extend the time for the taking of written exception to and the adjustment of accounts as provided for in Paragraph 6 of this Section I. Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct joint or simultaneous audits in a manner which will result in a minimum of inconvenience to the Operator.

II. DIRECT CHARGES

Subject to limitations hereinafter prescribed, Operator shall charge the Joint Account with the following items:

1. **Rentals and Royalties**
Delay or other rentals and royalties when such rentals and royalties are paid by Operator for the Joint Account of the Parties.

2. **Labor**
A. Salaries and wages of Operator's employees directly engaged on the Joint Property in the conduct of the Joint Operations, and salaries or wages of technical employees who are temporarily assigned to and directly employed on the Joint Property.
B. Operator's cost of holiday, vacation, sickness and disability benefits and other customary allowances paid to the employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II and Paragraph 1 of Section III; except that in the case of those employees only a pro rata portion of whose salaries and wages are chargeable to the Joint Account under Paragraph 1 of Section III, not more than the same pro rata portion of the benefits and allowances herein provided for shall be charged to the Joint Account. Cost under this Paragraph 2B may be charged on a "when and as paid basis" or by "percentage assessment" on the amount of salaries and wages chargeable to the Joint Account under Paragraph 2A of this Section II and Paragraph 1 of Section III. If percentage assessment is used, the rate shall be based on the Operator's cost experience.
C. Expenditures or contributions made pursuant to assessments imposed by governmental authority which are applicable to Operator's labor cost of salaries and wages chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II and Paragraph 1 of Section III.
D. Reasonable personal expenses of those employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II and for which expenses the employees are reimbursed under Operator's usual practice.

3. **Employee Benefits**
Operator's current cost of established plans for employees' group life insurance, hospitalization, pension, retirement, stock purchase, thrift, bonus, and other benefit plans of a like nature, applicable to Operator's labor cost; provided however, the total of such charges shall not exceed ten percent (10%) of Operator's labor costs chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II and Paragraph 1 of Section III.

4. **Material**
Material purchased or furnished by Operator for use on the Joint Property. So far as it is reasonably practical and consistent with efficient and economical operation, only such Material shall be purchased for or transferred to the Joint Property as may be required for immediate use; and the accumulation of surplus stocks shall be avoided.

5. **Transportation**
Transportation of employees and Material necessary for the Joint Operations but subject to the following limitations:
A. If Material is moved to the Joint Property from the Operator's warehouse or other properties, no charge shall be made to the Joint Account for a distance greater than the distance from the nearest reliable supply store or railway receiving point where like material is available, except by agreement with Non-Operators.
B. If surplus Material is moved to Operator's warehouse or other storage point, no charge shall be made to the Joint Account for a distance greater than the distance to the nearest reliable supply store or railway receiving point, except by agreement with Non-Operators. No charge shall be made to Joint Account for moving Material to other properties belonging to Operator, except by agreement with Non-Operators.
C. In the application of subparagraphs A and B above, there shall be no equalization of actual gross trucking costs of $100 or less.

6. **Services**
A. The cost of contract services and utilities procured from outside sources other than services covered by Paragraph 8 of this Section II and Paragraph 2 of Section III.
B. Use and service of equipment and facilities furnished by Operator as provided in Paragraph 5 of Section IV.

7. **Damages and Losses to Joint Property**
All costs or expenses necessary for the repair or replacement of Joint Property made necessary because of damages or losses incurred by fire, flood, storm, theft, accident, or any other cause, except to the extent that the damage or loss could have been avoided through the exercise of reasonable diligence on the part of Operator. Operator shall furnish Non-Operators written notice of damages or losses incurred as soon as practicable after a report thereof has been received by Operator.

8. **Legal Expense**
All costs and expenses of handling, investigating and settling litigation or claims arising by reason of the Joint Operations or necessary to protect or recover the Joint Property, including, but not limited to, attorneys' fees, court costs, cost of investigation or procuring evidence and amounts paid in settlement or satisfaction of any such litigation or claims; provided, (a) no charge shall be made for the services of Operator's legal staff or other regularly employed personnel (such services being considered to be Administrative Overhead under Section III), except by agreement with Non-Operators, and (b) no charge shall be made for the fees and expenses of outside attorneys unless the employment of such attorneys is agreed to by Operator and Non-Operators.

9. **Taxes**
All taxes of every kind and nature assessed or levied upon or in connection with the Joint Property, the operation thereof, or the production therefrom, and which taxes have been paid by the Operator for the benefit of the Parties.

10. **Insurance Premiums**
Premiums paid for insurance required to be carried on the Joint Property for the protection of the Parties.

11. **Other Expenditures**
Any other expenditure not covered or dealt with in the foregoing provisions of this Section II, or in Section III, and which is incurred by the Operator for the necessary and proper conduct of the Joint Operations.

III. INDIRECT CHARGES

Operator may charge the Joint Account for indirect costs either by use of an allocation of district expense items plus a fixed rate for administrative overhead, and plus the warehousing charges, all as provided for in Paragraphs 1, 2, and 3 of this Section III OR by combining all three of said items under the fixed rate provided for in Paragraph 4 of this Section III, as indicated next below:

OPERATOR SHALL CHARGE THE JOINT ACCOUNT UNDER THE TERMS OF:

☐ Paragraphs 1, 2 and 3. (Allocation of district expense plus fixed rate for administrative overhead plus warehousing.)
☒ Paragraph 4. (Combined fixed rate)

1. **District Expense**
Operator shall charge the Joint Account with a pro rata portion of the salaries, wages and expenses of Operator's production superintendent and other employees serving the Joint Property and other properties of the Operator in the same operating area, whose time is not allocated directly to the properties, and a pro rata portion of the cost of maintaining and operating a production office known as Operator's _____ office located at or near _____ (or a comparable office if location changed), and necessary sub-offices (if any), maintained for the convenience of the above-described office, and all necessary camps, including housing facilities for employees if required, used in connection with the operations of the Joint Property and other properties in the same operating area. The expense of, less any revenue from, such facilities may, at the option of Operator, include depreciation of investment or a fair monthly rental in lieu of depreciation. Such charges shall be apportioned to all properties served on some equitable basis consistent with Operator's accounting practice.

2. **Administrative Overhead**
Operator shall charge administrative overhead to the Joint Account at the following rates, which charge shall be in lieu of the cost and expense of all offices of the Operator not covered by Paragraph 1 of this Section III, including salaries, wages and expenses of personnel assigned to such offices. Such charges shall be in addition to the salaries, wages and expenses of employees of Operator authorized to be charged as direct charges as provided in Paragraphs 2 and 8 of Section II.

WELL BASIS (RATE PER WELL PER MONTH)

	DRILLING WELL RATE (Use Total Depth)	PRODUCING WELL RATE (Use Current Producing Depth)		
Well Depth	Each Well	First Five	Next Five	All Wells Over Ten

The cost and expense of services from outside sources in connection with matters of taxation, traffic, accounting, or matters before or involving governmental agencies shall be considered as included in the overhead rates provided for in this Paragraph 2 of Section III, unless such cost and expense are agreed upon between Operator and Non-Operators as a direct charge to the Joint Account.

3. **Operator's Fully Owned Warehouse Operating and Maintenance Expense**
(Describe fully the agreed procedure to be followed by the Operator.)

4. **Combined Fixed Rates**
Operator shall charge the Joint Account for the services covered by Paragraph 1, 2 and 3 of this Section III, the following fixed per well rates:

WELL BASIS (RATE PER WELL PER MONTH)

Well Depth	DRILLING WELL RATE (Use Total Depth)	PRODUCING WELL RATE (Use Current Producing Depth)		
	Each Well	First Five	Next Five	All Wells Over Ten
0' - 3,500'	$300	$145	$140	$135
3,501' - 7,500'	350	160	155	170
7,501' - 12,000'	400	175	170	165
over 12,000'	450	190	185	180

Said fixed rate (shall) (shall not) include salaries and expenses of production foremen.

5. **Application of Administrative Overhead or Combined Fixed Rates**
The following limitations, instructions and charges shall apply in the application of the per well rates as provided under either Paragraph 2 or Paragraph 4 of this Section III:
   A. Charges for drilling wells shall begin on the date each well is spudded and terminate on the date the drilling or completion rig is released, whichever is later, except that no charge shall be made during the suspension of drilling operations for fifteen (15) or more consecutive days.
   B. The status of wells shall be as follows:
      (1) Producing gas wells, injection wells for recovery operations, water supply wells utilized for water flooding operations and salt water disposal wells shall be considered the same as producing wells.
      (2) Wells permanently shut down but on which plugging operations are deferred shall be dropped from the well schedule at the time the shutdown is effected. When such a well is plugged a charge shall be made at the producing well rates.
      (3) Wells being plugged back, drilled deeper, converted to a source or input well, or which are undergoing any type of workover that requires the use of a drilling or workover rig shall be considered the same as drilling wells.
      (4) Temporarily shut-down wells, which are not produced or worked upon for a period of a full calendar month, shall not be included in the well schedule, provided however, wells shut in by governmental regulatory body shall be included in the well schedule only in the event the allowable production is transferred to some other well or wells on the Joint Property. In the event of a unit allowable, all wells capable of producing will be counted in determining the charge.
      (5) Gas wells shall be included in the well schedule if directly connected to a permanent sales outlet even though temporarily shut in due to overproduction or failure of purchaser to take the allowed production.
      (6) Wells completed in multiple horizons, in which the production is not commingled down hole, shall be considered as a producing well for each separately producing horizon.
   C. The well rates shall apply to the total number of wells being drilled or operated under the agreement to which this Accounting Procedure is attached, irrespective of individual leases.
   ~~D. The well rates shall be adjusted on the first day of April of each year following the effective date of the agreement to which this Accounting Procedure is attached. The adjustment shall be computed by multiplying the rate currently in use by the percentage increase or decrease in the average weekly earnings of Crude Petroleum and Gas Production Workers for the last calendar year compared to the preceding calendar year as shown by "The Index of Average Weekly Earnings of Crude Petroleum and Gas Production Workers" as published by the United States Department of Labor, Bureau of Labor Statistics. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.~~

6. For the construction of compressor plants, water stations, secondary recovery systems, salt water disposal facilities, and other such projects, as distinguished from the more usual drilling and producing operations, Operator in addition to the Administrative Overhead or Combined Fixed Rates provided for in Paragraph 2 and 4 of this Section III, shall charge the Joint Account with an additional overhead charge as follows:
   A. Total cost less than $25,000, no charge.
   B. Total cost more than $25,000 but less than $100,000, * % of total cost. *To be negotiated at a later date.
   C. Total cost of $100,000 or more, * % of the first $100,000 plus * % of all over $100,000 of total cost.
   Total cost shall mean the total gross cost of any one project. For the purpose of this Paragraph the component parts of a single project shall not be treated separately and the cost of drilling wells shall be excluded.
7. The specific rates provided for in this Section III may be amended from time to time by mutual agreement between the Parties hereto if, in practice, the rates are found to be insufficient or excessive.

IV. BASIS OF CHARGES TO JOINT ACCOUNT

Subject to the further provisions of this Section IV, Operator will procure all Material and services for the Joint Property. At the Operator's option, Non-Operator may supply Material or services for the Joint Property.

1. **Purchases**
Material purchased and service procured shall be charged at the price paid by Operator after deduction of all discounts actually received.
2. **Material furnished from Operator's Warehouse or Other Properties**
   A. New Material (Condition "A")
      (1) Tubular goods, two inch (2") and over, shall be priced on Eastern Mill base (i. e. Youngstown, Ohio; Lorain, Ohio; and Indiana Harbor, Indiana) on a minimum carload basis effective at date of movement and f. o. b. railway receiving point nearest the Joint Property, regardless of quantity. In equalized hauling charges, Operator is permitted to include ten cents (10c) per hundred-weight on all tubular goods furnished from his stocks in lieu of loading and unloading costs sustained.
      (2) Other Material shall be priced at the current replacement cost of the same kind of Material, effective at date of movement and f. o. b. the supply store or railway receiving point nearest the Joint Property where Material of the same kind is available.
      (3) The Joint Account shall not be credited with cash discounts applicable to prices provided for in this Paragraph 2 of Section IV.
   B. Used Material (Condition "B" and "C")
      (1) Material in sound and serviceable condition and suitable for reuse without reconditioning, shall be classified as Condition "B" and priced at seventy-five per cent (75%) of the current price of new Material.
      (2) Material which cannot be classified as Condition "B" but which,
         (a) After reconditioning will be further serviceable for original function as good secondhand Material (Condition "B"), or
         (b) Is serviceable for original function but substantially not suitable for reconditioning, shall be classified as Condition "C" and priced at fifty per cent (50%) of current new price.
      (3) Obsolete Material or Material which cannot be classified as Condition "B" or Condition "C" shall be priced at a value commensurate with its use. Material no longer suitable for its original purpose but usable for

some other purpose, shall be priced on a basis comparable with that of items normally used for such other purpose.

(4) Material involving erection costs shall be charged at applicable percentage of the current knocked-down price of new Material.

3. Premium Prices

Whenever Material is not readily obtainable at prices specified in Paragraphs 1 and 2 of this Section IV because of national emergencies, strikes or other unusual causes over which the Operator has no control, the Operator may charge the Joint Account for the required Material at the Operator's actual cost incurred in procuring such Material, in making it suitable for use, and in moving it to the Joint Property, provided, that notice in writing is furnished to Non-Operators of the proposed charge prior to billing Non-Operators for such Material. Each Non-Operator shall have the right, by so electing and notifying Operator within 10 days after receiving notice from Operator, to furnish in kind all or part of his share of such Material suitable for use and acceptable to Operator.

4. Warranty of Material Furnished by Operator

Operator does not warrant the Material furnished. In case of defective Material, credit shall not be passed to the Joint Account until adjustment has been received by Operator from the manufacturers or their agents.

5. Equipment and Facilities Furnished by Operator

A. Operator shall charge the Joint Account for use of equipment and facilities at rates commensurate with cost of ownership and operation. Such rates shall include cost of maintenance, repairs, other operating expense, insurance, taxes, depreciation and interest on investment not to exceed six per cent (6%) per annum, provided such rates shall not exceed those currently prevailing in the immediate area within which the Joint Property is located. Rates for automotive equipment shall generally be in line with the schedule of rates adopted by the Petroleum Motor Transport Association, or some other recognized organization, as recommended uniform charges against Joint Property operations. Rates for laboratory services shall not exceed those currently prevailing if performed by outside service laboratories. Rates for trucks, tractors and well service units may include wages and expenses of operator.

B. Whenever requested, Operator shall inform Non-Operators in advance of the rates it proposes to charge.

C. Rates shall be revised and adjusted from time to time when found to be either excessive or insufficient.

V. DISPOSAL OF MATERIAL

The Operator may purchase, but shall be under no obligation to purchase, interest of Non-Operators in surplus Condition "A" or "B" Material. The disposition of surplus Controllable Material, not purchased by Operator, shall be subject to agreement between Operator and Non-Operators, provided Operator shall dispose of normal accumulations of junk and scrap Material either by transfer or sale from the Joint Property.

1. Material Purchased by the Operator or Non-Operators

Material purchased by either the Operator or Non-Operators shall be credited by the Operator to the Joint Account for the month in which the Material is removed by the purchaser.

2. Division in Kind

Division of Material in kind, if made between Operator and Non-Operators, shall be in proportion to the respective interests in such Material. The Parties will thereupon be charged individually with the value of the Material received or receivable. Proper credits shall be made by the Operator in the monthly statement of operations.

3. Sales to Outsiders

Sales to outsiders of Material from the Joint Property shall be credited by Operator to the Joint Account at the net amount collected by Operator from vendee. Any claim by vendee related to such sale shall be charged back to the Joint Account if and when paid by Operator.

VI. BASIS OF PRICING MATERIAL TRANSFERRED FROM JOINT ACCOUNT

Material purchased by either Operator or Non-Operators or divided in kind, unless otherwise agreed to between Operator and Non-Operators shall be priced on the following basis:

1. New Price Defined

New price as used in this Section VI shall be the price specified for New Material in Section IV.

2. New Material

New Material (Condition "A"), being new Material procured for the Joint Property but never used, at one hundred per cent (100%) of current new price (plus sales tax if any).

3. Good Used Material

Good used Material (Condition "B"), being used Material in sound and serviceable condition, suitable for reuse without reconditioning:

A. At seventy-five per cent (75%) of current new price if Material was charged to Joint Account as new, or

B. At sixty-five per cent (65%) of current new price if Material was originally charged to the Joint Account as secondhand at seventy-five percent (75%) of new price.

4. Other Used Material

Used Material (Condition "C"), at fifty per cent (50%) of current new price, being used Material which:

A. Is not in sound and serviceable condition but suitable for reuse after reconditioning, or

B. Is serviceable for original function but not suitable for reconditioning.

5. Bad-Order Material

Material (Condition "D"), no longer suitable for its original purpose without excessive repair cost but usable for some other purpose at a price comparable with that of items normally used for such other purpose.

6. Junk Material

Junk Material (Condition "E"), being obsolete and scrap Material, at prevailing prices.

7. Temporarily Used Material

When the use of Material is temporary and its service to the Joint Property does not justify the reduction in price as provided for in Paragraph 3 B of this Section VI, such Material shall be priced on a basis that will leave a net charge to the Joint Account consistent with the value of the service rendered.

VII. INVENTORIES

The Operator shall maintain detailed records of Material generally considered controllable by the Industry.

1. Periodic Inventories, Notice and Representation

At reasonable intervals, inventories shall be taken by Operator of the Joint Account Material, which shall include all such Material as is ordinarily considered controllable. Written notice of intention to take inventory shall be given by Operator at least thirty (30) days before any inventory is to begin so that Non-Operators may be represented when any inventory is taken. Failure of Non-Operators to be represented at an inventory shall bind Non-Operators to accept the inventory taken by Operator, who shall in that event furnish Non-Operators with a copy thereof.

2. Reconciliation and Adjustment of Inventories

Reconciliation of inventory with charges to the Joint Account shall be made, and a list of overages and shortages shall be jointly determined by Operator and Non-Operators. Inventory adjustments shall be made by Operator with the Joint Account for overages and shortages, but Operator shall be held accountable to Non-Operator only for shortages due to lack of reasonable diligence.

3. Special Inventories

Special inventories may be taken whenever there is any sale or change of interest in the Joint Property. It shall be the duty of the party selling to notify all other Parties as quickly as possible after the transfer of interest takes place. In such cases, both the seller and the purchaser shall be governed by such inventory.

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
Prepared by T. A. Voorhees

CASE NO. 1005 - EXHIBIT NO. 17
August 20, 1970

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal
Exhibit 17
Identified by Tom Voorhees

CARDINAL PETROLEUM COMPANY

Drilling and Completion Invoices

As of August 12, 1970

WELL NAME Schank #15-15 LOCATION SW/SE Sec 15-140N-96W

FIELD Dickinson Stark County, North Dakota

DRILLING COSTS		SUPPLIER	INVOICE NO.	AMOUNT
Footage 7,990' @ $4.75		Cardinal Petroleum Co.		37,952.50
Daywork - WDP / WODP				
5-30-70 13 1/2 / 2 3/4		Circulate samples; Attempt to log		
5-31-70 13 3/4 / 3		D.S.T. #1		
6-01-70 ____ / 3		W.O.C. on production pipe after plug down, rig release at 7:00 p. m.		
Total Hrs. 27 1/4 / 8 3/4				
With Drill Pipe	27 1/4 Hrs. @ $71.00		$1,934.75	
Without Drill Pipe	8 3/4 Hrs. @ $66.00		577.50	2,512.25
Survey & Stake Location		Powers Elevation Co.	5626	90.00
Permit		State Geologist	V-41359	25.00
Make Location & Roads		Badinger Sand & Gravel	9, 47	84.24
		L. P. Anderson Contractor	19948	
			19947	1,340.63
			19946	
		L. P. Anderson Contractor	19997	1,626.19
Pits		L. P. Anderson Contractor	19947	297.25
Mud (Crude Oil)		Rock Island Oil Co.	69876	
			69915	1,008.85
(Haul Crude Oil)		Matador	2164	
			2094	247.20
(Mud)		United Engineering Corporation	5329-32	
			5521-23	
			6205	
			6240	10,317.15
Water (Excess of 1,500)		Cardinal Petroleum Co.	JE 352	1,274.50
Surface Casing 20 JTS 8 5/8": 601'		Wisco	3553	2,032.83
Cementing Service		Halliburton	283374	418.68
Cement		Halliburton	283374	1,236.03
Shoe, Centralizer, etc.		Continental-Emsco Co.	1497891	159.90
DST		Johnston	F0073	953.00
Electrical Logging		Schlumberger	4-9436	425.00
Misc. Trucking (Haul 8 5/8 csg.)		Cardinal Petroleum Co.	3681	80.00

DRILLING COSTS	SUPPLIER	INVOICE NO.	AMOUNT
Geologist Service	Harris, Brown, & Klemer	6-05-70	347.84
Fill Pits & Level Location	Flint Engineering	6294	115.40
Waiver of Damages	Security Trust & Savings Bank Jacob Schank	V-41472	602.15
Other (Power Tongs 8 5/8")	Wisco	3568	303.00
	American Stratigraphic	93849	80.00
(Drilling Overhead)	Cardinal Petroleum Co.	JE 1794	300.65
	Beaudoin Concrete Product	12013	9.79
TOTAL DRILLING COSTS			63,840.03

COMPLETION COSTS			
Casing, Oil String (5 ½" 238JT 8096.58')	Armco National Supply	7475T98986	19,056.71
(Load 5½" csg.)	Armco National Supply	98986A	131.50
Power Tongs 5½"	Wisco	3643	899.70
Shoe, Float Collar, Scratchers, Centralizers	Halliburton	283540	415.50
Cementing Service	Halliburton	283540	1,047.81
Cement	Halliburton	283540	1,206.39
Mud Flush & Mud	Halliburton	283540	512.20
License Fee	Halliburton	283540	100.00
Well Head & Valves			
(Tbg. Hd. 5½ & Misc.)	Continental-Emsco Co.	1513412	454.38
(Csg. Hd. 8 5/8)	Continental-Emsco Co.	1498054	303.47
(Stuffing Box, etc.)	Continental-Emsco Co.	1498021	98.05
Tubing (2 7/8" 271JT 8086.58')	Continental-Emsco Co.	1513415 504655	9,102.26
5½" LT & C Casing Coupling	Armco National Supply	98913	14.69
Correlation Log	Schlumberger	4-9355	929.40
Perforating	Schlumberger	4-9355	836.50
Tubing anchor - catcher	Baker Oil Tools	57707	900.72
Pump treat SW in hole with KCl	Dowell	15-2-6350	750.77
Acidize	Dowell	15-2-6352	893.14
Fracture	Dowell	15-2-6353	7,081.95
Haul Water for Fracture	Matador Service	2942, 2939 2941, 2938 2940	648.40
Rig Time, Completion	R. A. Prather & Sons, Inc.	09903	4,394.92

COMPLETION COSTS	SUPPLIER	INVOICE NO.	AMOUNT
Pumping Unit (Lufkin G-6400-304-144)	Lufkin Industries, Inc.	324056	14,478.17
Sucker Rods (Polish rod, Clps., etc.) (3/4" 2450') (7/8" 2150')	Continental-Emsco Co.	1498021	246.25
(1 " 1900')	Continental-Emsco Co.	1498052	4,038.73
Downhole Pump ($2\frac{1}{2}$ x 2 x 24 RWBC)	Axelson U. S. Industries	119508	713.93
Unit Foundation (Cement)	Stark Ready-Mix	21857 21858	166.02
(Forms)	Dickinson Lumber	8059, 8158 7981, 8004	150.37
(Pour Foundation)	Flint Engineering	6294	833.00
Tanks (3 - 400 Bbls. w/walkway & stairway)	Connor Sales Company	119-706	7,567.16
Heater - Treater (5' x 12' Connor Horiz., w/house)	Connor Sales Company	119-706	4,492.81
Treater & Tanks Installation	Flint Engineering	6294	1,137.40
	Connor Sales Company	129-706	310.00
Line Pipe (2" 29JT 609') (3" 18JT 378') (4" 1JT 21')	Continental-Emsco Co.	1513414	876.60
Fittings, Tank Battery & Flow Lines	Continental-Emsco Co.	1498065	2,147.82
	Connor Sales Company	129-706	138.16
	Continental-Emsco Co.	1513422	31.20
Tank Battery Insulation	Roustabout Service Co.	7763	3,728.21
Chemical Pump	Continental-Emsco Co.	1498083	127.00
Trucking to set pumping unit, etc.	Suhr Transport	A 4557	412.00
Contract Labor	Flint Engineering	6361	802.70
Lease Road	L. P. Anderson Contractor	20380, 20327 20329, 20330 20103, 20224 20379	5,245.18
Salt Water Disposal Pit	L. P. Anderson Contractor	20226	108.75
Tank Grade, Gravel	L. P. Anderson Contractor	20226	27.50
Welding	Reiter Welding	2005, 2004	228.88
Electrification	West Plains Electric	2152	194.60
	Triangle Electric	2305, 2302	8,976.39
Engineering Service	Cardinal Petroleum Co.	V-1242	814.87
Other (Move test tanks)	Portal Service Company	1961, 1962	332.00
(Haul & install anchors)	L. P. Anderson Contractor	20225, 20226	208.63
(Fencing)	Dickinson Lumber Co.	8764, 8157	128.61
(Clean oil spill, Frac Tank)	Flint Engineering	6411	13.50
(Clean up test tank)	R & R Service	128	155.25
TOTAL COMPLETION COSTS			108,610.15

DRILLING COSTS	63,840.03
COMPLETION COSTS	108,610.15
TOTAL (Invoices received thru August 12, 1970)	$172,450.18

CARDINAL PETROLEUM COMPANY

Operating Expenses

Schank #15-15

June, 1970 - One half month

Pumping	50.00	
Administrative Overhead	87.50	
Electricity	5.00	
Propane	254.02	
Miscellaneous Supplies	1.89	
Total for June, 1970		$398.41

July, 1970

Pumping	100.00	
Administrative Overhead	175.00	
Electricity	15.00	
Propane	108.57	
Chemicals	286.27	
Hot Oil	45.00	
Total for July, 1970		$729.84

Powers Elevation Company, Inc.

P. O. BOX 7146 • DENVER, COLORADO 80207

March 30, 1970

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
AUG 20 1970
Date ..... Case No. 1004
Introduced by Cardinal Petr. Co.
Exhibit 17 (Second Part)
Identified by Tom Voorhees

Cardinal Petroleum Co.
Box 1077
Billings, Montana 59103

INVOICE NO. 5626

WORK ORDER NO.

YOUR NO.

Staking of Location: 15-15 Schank et al,
1980'FE & 660'FS, Sec. 15, 140N-96W,
Stark County, North Dakota $ 90.00

Elevation: 2525 GR

Requested by: Swede Swenson
Work Completed: 3/27/70.

803-51-1207

804

8E339

The services rendered herein were performed by qualified personnel in accordance with generally accepted oil field practice and are accurate to the best of our knowledge. Our liability is limited to [illegible]

03-41
921

VOUCHER | DATE | CHECK NO.
3-25-70 | 41359

CARDINAL

41359
AMOUNT
$25.00

Twenty-five and 00/100

PAY TO THE ORDER OF
. State Geologist
. University Station
. Grand Forks, North Dakota 58201

Security Trust & Savings Bank
Billings, Montana

CARDINAL PETROLEUM COMPANY

NON-NEGOTIABLE

MONTH	★ REFERENCE	AMOUNT	DEDUCTIONS	BALANCE
3/70	Fee for Drilling Permit: Schank et al #15-15 SW¼SE¼ Sec. 15-140N-96W Stark County, North Dakota	25.00		

803-51-1207

804

★ REF. CODE:
1. PER YOUR STATEMENT
2. DISCOUNTS

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
ACCTS. PAYABLE

REMITTANCE ADVICE
41359

✓

Statement

In account with

Badinger Sand & Gravel Pit

Route 2 Dickinson, N. D., ..., 19.....

Cardinal Oil Petroleum
Box 1077
Billings, Montana
59103
Lelia Bunell "15-15"

	34 yds. screened sand (del)		42 00
		Tax	1 68
			43 68
	805. 51-1107		

Statement

In account with

Badinger Sand & Gravel Pit

Route 2

Dickinson, N. D., 5-12, 1970

RECEIVED
MAY 14 1970
CARDINAL

Cardinal Petroleum Co.
Box 1077
Billings, Montana 59103

May	4	26 yds. crushed Scoria (Hill) @ 1.50 Schank Well 15-15 Sales tax	39 00 1 56 40 56

U-1428
803-51-1207

5-15-70

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Raule

DATE 5/22/70
INVOICE NO. G 19948
PUR. ORD. NO.

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

Schenk #15-15

5/7/70	Operator-Travel Bolfield to location, Blade Rig Grade			
		1½ hrs.	@ 4.75 per hr.	$ 7.13
	#05 12 Cat Motor Patrol	1 hr.	@ 9.00 per hr.	9.00
5/7/70	Operator-Cut down for Mud Tanks, Build Reserve Pit, Travel to Bolfield	9 hrs.	@ 4.75 per hr.	42.75
	Subsistence			10.00
	#66 TS14 Euclid Scraper	8½ hrs.	@24.00 per hr.	204.00
	#1 Pickup	½ hr.	@ 3.50 per hr.	1.75
				$274.63

0-1223

303-571207

GENERAL OFFICES
P. O. BOX 190

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 5/22/70
INVOICE NO. G 19947
PUR. ORD. NO.

Schank #15-15

5/6/70	Operator-Load Culvert, Haul from Belfield to location, Build Rig Grade, Build Reserve Pit, Travel to Belfield			
		13½ hrs.	@ 4.75 per hr.	$ 61.13
	Subsistance			10.00
	#11 Pickup	1½ hrs.	@ 3.50 per hr.	5.25
	#69 C-6 Euclid & Dozer	12 hrs.	@18.50 per hr.	222.00
5/6/70	Operator-Build Rig Grade, Blade Road, Travel to Belfield			
		5 hrs.	@ 4.75 per hr.	23.75
	#85 12 Cat Motor Patrol	4½ hrs.	@ 9.00 per hr.	40.50
5/7/70	Operator-Travel Belfield to location, Build Reserve Pit, Build Tank Mound, Travel to Belfield			
		13 hrs.	@ 4.75 per hr.	61.75
	Subsistance			10.00
	#11 Pickup	1 hr.	@ 3.50 per hr.	3.50
	#69 C-6 Euclid & Dozer	12 hrs.	@18.50 per hr.	222.00
				$662.88

G-1223
803-51-1207

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

Thank God ✓

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 5/22/70
INVOICE NO. G 19946
PUR. ORD. NO.

Schank 15-15

5/5/70	1- 20' X 18" Culvert	80 ft.	@ 4.00 per ft.	$320.00
	2- 18" Culvert Bands		@ 4.00 ea.	8.00
	North Dakota Sales Tax	4% of 328.00		13.12
5/4/70	Operator-Travel Belfield to location, Stake Rig Grade, Build Rig Grade, Travel to Belfield			
		4 hrs.	@ 4.75 per hr.	19.00
	Subsistance			10.00
	#11 Pickup	1 hr.	@ 3.50 per hr.	3.50
	#69 C-6 Euclid & Dozer	2 hrs.	@18.50 per hr.	37.00
5/5/70	Operator-Load Culvert, Haul from Belfield to location, Build Rig Grade, Travel to Belfield			
		13 hrs.	@ 4.75 per hr.	61.75
	Subsistance			10.00
	#11 Pickup	1½ hrs.	@ 3.50 per hr.	5.25
	#69 C-6 Euclid & Dozer	11½ hrs.	@18.50 per hr.	212.75
				$740.37

G-1223
803-51-1207

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

INVOICE

BEN MACHUK

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, INC.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 6/1/70
INVOICE NO. G 19997
PUR. ORD. NO.

Schank #15-15

5/15/70	156 Cubic Yards of Scoria		@ 2.84 per yd.	$ 443.04
	North Dakota Sales Tax	4% of 443.04		17.72
5/16/70	312 Cubic Yards of Scoria		@ 2.84 per yd.	886.08
	North Dakota Sales Tax	4% of 886.08		35.44
5/19/70	13 Cubic Yards of Scoria		@ 2.84 per yd.	36.92
	North Dakota Sales Tax	4% of 36.92		1.48
5/15/70	Operator-Clean Mud off Rig Grade and spread Scoria, Travel to Bolfield	6½ hrs.	@ 4.75 per hr.	30.88
	#69 C-6 Euclid & Dozer	6 hrs.	@16.50 per hr.	111.00
	#8 Pickup	½ hr.	@ 3.50 per hr.	1.75
5/16/70	Operator-Blade Road and Rig Grade, Spread Scoria	4½ hrs.	@ 4.75 per hr.	21.38
	#82 12 Cat Motor Patrol	4½ hrs.	@ 9.00 per hr.	40.50
				$1626.19

COPY
Do not pay
Sweb returned to Mason

Thank You.

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

L. P. ANDERSON CONTRACTOR, INC.

By: Barry Klaas

Driller or Foreman

SIGNED:

DAILY TOTAL =>

WICHITA PHONE
AMherst 5-5674

ROCK ISLAND OIL & REFINING CO., INC.
321 WEST DOUGLAS
WICHITA, KANSAS 67202

FIELD ORDER 69816

Source - Crude Ticket # 1411 1443 Dist 78

Other

Cardinal Petro Corp.
Billings, Montana.

Date May 23, 1970

Lease Schanke Well No. 15-15

	HOURS	RATE	AMOUNT	
TRUCK NO. 824 Matador V-1352				
803-51-1207	Bbls.			
Crude used for mud stream	150.30	3.10	463.	93
Sales tax		4%	18.	64
FOREMAN DIST. Belfield Dist # 27			481.	57

Accepted by W.A. Baker Driver Emil Gawryluk

WICHITA PHONE
AMherst 5-5674

ROCK ISLAND OIL & REFINING CO., INC.
321 WEST DOUGLAS
WICHITA, KANSAS 67202

FIELD ORDER 69935

Source - Crude Ticket # 1492 1493 Dist # 87

Other

Cardinal Petro Corp
Billings, Montana

Date May 28, 1970

Lease Schanke Well No. 15-15

	HOURS	RATE	AMOUNT	
TRUCK NO. 824 Matador V-1352				
803-51-1207	Bbls.			
Crude used for mud stream	162.62	3.10	504	12
Sales Tax		4%	20	16
FOREMAN DIST. Belfield Dist # 27			524	28

Accepted by Eugene Hetzel Driver Emil Gawryluk

MATADOR

VOUCHER NO. JV5-25-4
035-110-01-00-14010

MATADOR Service, Inc. / "Serving the Petroleum Industry"

AREA CODE 316 PHONE TE 8-7741 / P.O. BOX 2256 – WICHITA, KANSAS 67201

June 11, 1970

Cardinal Petro Corp
P. O. Box 2564
Billings, Montana 59103

WE Debit YOUR ACCOUNT AS FOLLOWS: Crude Oil Shook 15-15

SM
5-22 02260-188
5-21 33700-208
5-27 39160-163

per attached....$ 182.30

haul crude oil for drilling

MATADOR

NO 2164

VOUCHER NO. JV5-25-5
035-110-01-00-14010

MATADOR Service, Inc. / "Serving the Petroleum Industry"

AREA CODE 316 PHONE TE 8-7741 / P.O. BOX 2256 – WICHITA, KANSAS 67201

June 11, 1970

Cardinal Petro Corp
Billings, Montana

WE Debit YOUR ACCOUNT AS FOLLOWS: Crude Oil Shook 22-22

SMAG
5-26 33700-216

per attached.....$ 64.10

UNITED Engineering Corp.
PHONE 406-252-8351 P. O. BOX 734 BILLINGS, MONTANA 59103

DRILLING MUD COST SUMMARY

COMPANY:	Cardinal Petroleum Co.	DATE STARTED:	5-18-70
WELL NAME:	Schank 15-16	DATE COMPLETED:	5-31-70
LOCATION:	SW SE Sec. 15-140N-96W	TOTAL DEPTH:	8,000'
	STARK CO., N. DAK.	COST PER FOOT:	$1.29

PRODUCT	UNITS	SIZE	UNIT COST	TOTAL
Hydragel	120	100#	2.60	312.00
Salt Gel	233	100#	4.45	1,036.85
Salt	350	100#	2.25	787.50
Detergent #7	16	50#	26.60	425.60
Caust. Lignite	33	50#	11.05	364.65
Peltex	9	50#	16.20	145.80
AXMDL	15	50#	38.70	580.50
Sodium Sichromate	3	100#	39.25	117.75
Superlube Flo	12	40#	13.45	161.40
Starch	387	50#	9.90	3,831.30
Preservative	21	50#	27.30	573.30
Visbestos	30	50#	10.20	306.00
Redwood Fiber	89	40#	5.30	439.90
Mica	50	50#	5.15	257.50
Drill Floc	12	2#	9.90	118.80
		TOTAL MATERIAL		9,458.85
		4% Sales Tax		378.37
		Trucking		513.00
		TOTAL COST		$10,350.22

COPY #4
ORIGINAL INVOICE

UNITED Engineering Corp.

PHONE 406 252 6251 P. O. BOX 734 BILLINGS, MT. 59103

INVOICE NO	DATE
6240	6 18 70

SOLD TO CARDINAL PETROLEUM
P.O. BOX 1077
BILLINGS, MT 59103

SHIP TO SCHANK 15-15

F.O.B.
SHIP FR.
ROUTING

PPD.
COLL.
RATE CWT

OUR ORD. NO.	CUSTOMER ORDER NO.	ORDERED SHIPPED	DATE SHIPPED	CAR NO.	WEIGHT
			6 17 70		

QUANTITY	UNIT	DESCRIPTION	LBS.	TONS	PRICE	AMOUNT
		TO CORRECXT PRICE ON SUPER LUBE FLO				
BILLED AS:						
12-	40# BAG	SUPER LUBE FLO			13.45	161.40-
SHOULD BE:						
12	40# BAG	SUPER LUBE FLO			10.80	129.60
						31.80-
			4.00% ST SALES TAX			1.27-
			CREDIT DUE			33.07-

TERMS _____ DEDUCT _____ IF PAID BY _____ 70%

ATTACHMENTS: BILL OF LADING ☐ FREIGHT BILL ☐ NUMBER INV TO CUST ☐ DEL TIC ☐ NO _____

WARNING: GATHERING FAMILY COMMENTARY

SCHANK #15-15

Water costs in excess of the $1,500.00 limit per AFE:

V41443 -	Water at source paid to Jacob Schank	$ 150.00
JE 14-1415	Haul water pump & water line	273.00
	Hauling water by Cardinal Petroleum Company	2,351.50
		2,774.50
	Less:	1,500.00
Excess over $1,500		$1,274.50

WIRELINE SERVICE
CASING PULLING SERVICE
MANUFACTURERS REPRESENTATIVES
HYDRAULIC POWER TONGS & CREWS
ROUSTABOUT CREWS
USED OIL FIELD EQUIPMENT



Phone 572-2135
Area Code 701
P. O. Box 1323
WILLISTON, N. DAK.-58801

No. 3553

SOLD TO: Cardinal Petroleum Corp.
P. O. Box 1077
Billings, Montana

TERMS:
ORDER NO.
F. O. B.
INVOICE DATE 5-7-70

LOCATION: Dickinson Field
Schenk 15-15

DESCRIPTION	UNIT PRICE	TOTAL
20 Joints of New J-55 8-5/8: 24# casing---------- --601.43'	3.25	1,955.65
North Dakota Tax		78.23
		$2,033.48
		2032.83

1526

853.51-207

Wisco Sale
DT 2706: Buck
N. Dak.

HALLIBURTON

A DIVISION OF HALLIBURTON COMPANY
FORM 1906-R1

SEND ALL REMITTANCES TO
P. O. DRAWER 1431
DUNCAN, OKLAHOMA 73533

PAGE 1 OF 1 PAGES

INVOICE & TICKET NO. 283374

WELL NO. AND FARM: 15-15 Schaak
COUNTY: Stark
STATE: No. Dakota
DATE: 5-19-70
OWNER: Cardinal Pet Co
CONTRACTOR: Cardinal Pet Co
DUNCAN USE ONLY
CHARGE TO: Cardinal Pet Co
DELIVERED TO
LOCATION: Dickinson, ND CODE: 55530
ADDRESS: Box 1077 Billings, Montana
SHIPPED VIA
LOCATION: 2 CODE:
LOCATION: 3 CODE:

144330
CARDINAL PETROLEUM COMPANY 5
P.O. BOX 2564
BILLINGS, MONTANA 59103

DUNCAN USE ONLY

CUST. INV. REQ. ORIG. & ☐ 1 ☐ 2 ☐ 3 ☐ 4
REQUISITION
ORDER NO.
BULK MATERIAL DELIVERY TICKET NO. B-53400
TOTAL ACID - 30 DAYS
WELL TYPE: Wildcat CODE: W/C
NO. COPIES

TYPE AND PURPOSE OF JOB: Cemt 8 5/8 Surface

TERMS: DUE BY THE 20TH OF FOLLOWING MONTH. INTEREST CHARGED AFTER 60 DAYS FROM DATE OF INVOICE.
$ NET Cash discount allowed if paid by due date.
$ _____ Tax adjustment may be deducted if discounted.

PRICE REFERENCE	SECONDARY REF. OR PART NO.	CODE L	CODE D	DESCRIPTION	UNITS 1 QTY.	UNITS 1 MEAS.	UNITS 2 QTY.	UNITS 2 MEAS.	UNIT PRICE	AMOUNT
R001-032				Pump Charge						354 93
R000-117				Mileage	75	mi			.85	63 75
R030-302				Top Wood Plug	1	EA	8 5/8	in		13 00
				250 Cu. Ft. Per Cent Cons. of						
505-010				Pozmix Class "B" Cemt	125	Sks			1.81	226 25
506-105				Pozmix "A"	125	Sks			1.27	158 75
506-121				Halliburton Gel Allowed	4	Sks			N/C	N/C
509-406				Calcium Chloride mixed 2%	7	Sks			8.03	56 21
				14						
505-040				Pozmix Class "B" Cemt	100	Sks			1.81	181 00
				SERVICE CHARGE ON MATERIALS RETURNED		CU. FT.				
500-207				SERVICE CHARGE	364	CU. FT.			.40	145 60
500-314				31,360 TOTAL WEIGHT 100 LOADED MILES	1513	TON MILES			.26	407 68

TAX REFERENCES: 802-020 801-332 N.D.

SUB TOTAL 1607 17
TAX 47 54
TAX
TAX
TOTAL 1654 71

WAS JOB SATISFACTORILY COMPLETED? _____
WAS OPERATION OF EQUIPMENT SATISFACTORY? _____
WAS PERFORMANCE OF PERSONNEL SATISFACTORY? _____

X H. A. Schaak
Customer or His Agent

J. J. Bragg
Halliburton Operator

203 31-1207
1478

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY

DALLAS, TEXAS

INVOICE

SELLING LOCATION:	DATE SHIPPED	INVOICE NO. PART OF NO
GLENDIVE, MONT.	05 16 70	1497891

CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO INVOICE NO.	INVOICE DATE
SCHANK 15-15		05 28 70
SHIPPED TO	SHIPPED VIA	
DICKENSON, NORTH DAK.	COMPANY VEHICLE	414-20
		00 493 9740

D-U-N-S 00 493 9740

DESCRIPTION (SECTION IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	
FFLE CPLG DISC 8-5/8 8R	25.00	NET	25.00	N
5/8 IN RL 8RD BAKER GUIDE SHOE	66.35	NET	66.35	N
5/8 IN MODEL M CENTRALIZERS	26.95	NET	53.90	N
LE KIT C THD LOCKING COMPOUND	8.50	NET	8.50	N
DELIVERY CHARGE	40.00	NET	N/C	

803-51-1207

	TAXES		
6.15 NORTH DAKOTA TAX	DETAIL	TOTAL	6.15

LOWING.	PROMPT PAYMENT DISCOUNT IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE	.00	INVOICE AMOUNT 159.90

REMIT TO P. O. BOX 809 DALLAS, TEXAS 75221

ORIGINAL INVOICE

JOHNSTON

PORT OFFICE BOX 30340 • HOUSTON, TEXAS 77036

RECEIVED
JUN 15 1970
CARDINAL

TICKET NO	DIVISION NO	DATE OF INVOICE
16257	F0073	6/09/0

CARDINAL PETROLEUM CO
P O BOX 1077
BILLINGS MONT 59101

PLEASE REFER TO INVOICE NUMBER WHEN REMITTING AND MAKE REMITTANCE TO: JOHNSTON
LOCK BOX 2201, HOUSTON, TEXAS 77001

* CHARGES SUBJECT TO TAX

WELL	LEASE	DISTRICT	COUNTY	STATE	CUSTOMER	DATE
1515	SCHANK	3121	STARK	N D	12920	5/31/0

CUSTOMER'S REFERENCE

DESCRIPTION	AMOUNT
101 7945 FT MFE O H TEST	567.00
106 1 EXTRA PKR	141.00
103 4 HRS TECH TIME AT	
9 DLS AND 50 CTS	38.00
117 JOHNSTON HS 1 JARS	148.00
114 3 1/2 IN JOHNSTON SFTY	
JT	30.00
151 PRESSURE CURVE	
BREAKDOWN	7.50
119 5 FT PERF ANCHOR AT	
1 DLR AND 90 CTS	9.50
137 REVERSE CIRC VALVE	12.00
TOTAL	953.00*

A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION

ORIGINAL INVOICE

SCHLUMBERGER WELL SERVICES

A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION
CHECK MAILING ADDRESS — LOCK BOX 2183
CORRESPONDENCE MAILING ADDRESS — P. O. BOX 2175
HOUSTON, TEXAS 77001
THE HIGH PERFORMANCE COMPANY

RECEIVED
JUN 19 1970
CARDINAL

CARDINAL PETR CO
BOX 1077
BILLINGS MONTANA

TERMS
NET CASH
NO DISCOUNT ALLOWED

INVOICE DATE	SERVICE ORDER DATE	SERVICE ORDER NO.	YOUR ORDER NO.	INVOICE NO.
05-30-70	05-30-70	05981		4- 9436

STATE	FIELD	LEASE	
ND	DICKINSON	SCHANK	
	LOCATION	WELL	OFFSHORE ZONE
	SEC 15-140N-96W	15-15	

		AMOUNT
		$
INCOMPLETE OPER		
L	LATEROLOG-GAMMA RAY SERVICE CHARGE	425.00
		425.00 *

CUSTOMER	ENGINEER	LOCATION
16605	053869	4109

CHECK MAILING ADDRESS — LOCK BOX 2183
CORRESPONDENCE MAILING ADDRESS — P. O. BOX 2175
HOUSTON, TEXAS 77001

TOTAL CHARGE $ 425.00 **
PAY THIS AMOUNT

CARDINAL PETROLEUM COMPANY

No 3681

Date 5-7-70

T-3—GMC Tandem-Tlr. # TR3-5 Work Order No. Rig #10 Customer Cardinal Petro Co

Driver Kyle Lasmar Swamper _____ Approved By H. A. Jobin

From Williston To Dickinson

Time From	Time To	Hours	Description of Work	Rate		Total	
1:30	6:30	5	Loaded & Hauled 2 Jts 8 5/8" Csng from Wise's Yards to Williston Rig Repair	16	00	80	00
Pm	Pm						
6:00	9:00	3	Helped Rig up on Location	16	00	48	00
		8	State Load Permits No's. 802-51-1207 80.00 Amt.				
			410 - 1016 ½ 48.00 Total			128	00

Loaded Mile _____ Weight _____ N. Dakota Miles 135

Empty Mile _____ Weather Cond. Mud _____ Miles _____

P. O. Box 5
Bismarck, North Dakota
June 5, 1970

STATEMENT

Cardinal Petroleum Co.
P. O. Box 1077
Billings, Montana 59101

Statement for geological supervision during the drilling of the Cardinal Petroleum No. 15-15 Schank, Stark County, North Dakota.

2 days operating time @ $125 per day			$250.00
Expenses:			
280 miles @ 12¢ per mile	$33.60		
Motel	21.84		
Food	14.00		
Phone	28.40		97.84
		TOTAL	$347.84

HARRIS, BROWN & KLEMER

Steven H. Harris

U-1491
803-51-1207

Rec'd Sent Acct.
6-9-70

FLINT Engineering & Construction Co.

324 PETROLEUM BUILDING · BILLINGS, MONTANA 59101

RECEIVED
JUN 24 1970
CARDINAL

SOLD TO . Cardinal Petrolcum Company
. P. O. Box 1077
. Billings, Montana 59101
.
DELIVERED AT . Glendive, Montana
DELIVERED TO . Schank 15-15

INVOICE No. . 6294
JOB No. . H-6-6 N.D.
ORDER No. .
INVOICE DATE . 6-16-70
DATE STARTED . 6-5-70
DATE COMPLETED . 6-14-70

Furnish foreman, laborer, tools and transportation necessary to hookup tank battery, form and pour pumping unit foundation, lay flow line, build fence around pit, build well grade, install pumping unit and clean up location as per attached time sheets.

42763	6-5-70	$ 148.50
42765	6-6-70	155.25
43163	6-6-70	171.40
42774	6-8-70	189.00
38344	6-8-70	227.50
42775	6-9-70	195.75
38345	6-9-70	200.50
43701	6-10-70	20.25
38346	6-10-70	160.00
43705	6-11-70	141.75
38347	6-11-70	187.00
38349	6-12-70	115.40
43464	6-14-70	173.50

Total Invoice Amount $2,085.80 ✓

803-51-1207

Check PLS check ok ADDITION

PLEASE PAY FROM THIS INVOICE. TERMS NET. STATEMENTS MAILED ONLY UPON REQUEST.

FLINT F-7

41472

VOUCHER	DATE	CHECK NO.	AMOUNT
	5/12/70	41472	$602.15

PAY TO THE ORDER OF *
Security Trust & Savings Bank
Billings, Montana

CARDINAL PETROLEUM COMPANY

Security Trust & Savings Bank
Billings, Montana

NON-NEGOTIABLE

MONTH	* REFERENCE	AMOUNT	DEDUCTIONS	BALANCE
5/70	Collection Notice No. 81767 - Jacob Schenk	$602.15		

803-51-1207

* REF. CODE:
1. PER YOUR STATEMENT
2. DISCOUNTS

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
ACCTS. PAYABLE

REMITTANCE ADVICE
41472

WIRELINE SERVICE
CASING PULLING SERVICE
MANUFACTURERS REPRESENTATIVES
HYDRAULIC POWER TONGS & CREWS
ROUSTABOUT CREWS
USED OIL FIELD EQUIPMENT



Phone 572-2135
Area Code 701
P. O. Box 1323
WILLISTON, N. DAK. 58801

No. 3568

SOLD TO: Cardinal Petroleum Corp.
P. O. Box 1077
Billings, Montana

LOCATION: Zahn, Dickinson Schank 15-15

TERMS:
ORDER NO. P.O. 1016
F. O. B.
INVOICE DATE 5-21-70

DESCRIPTION	UNIT PRICE	TOTAL
Ran 600' of 8-5/8" casing with two man crew		200.00
8-5/8" roto. slips		40.00
8-5/8" elevators		45.00
RT mileage from Williston to N. Dickinson272 miles less 200 miles free= 72 miles	.25	18.00
		$303.00

1536
U
803-51-1207

✓

INVOICE

AMERICAN STRATIGRAPHIC COMPANY

6200 E. 39TH AVE., DENVER • 524 E. YELLOWSTONE, CASPER • 17 NO. 31ST ST., BILLINGS

July 6, 1970

Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

T 93849
RECEIVED
JUL 3 1970
CARDINAL
P.O. NO.

Charge for Permanent Library Set of Cuttings From:

Cardinal #15-15 Schank
SW SE 15-140N-96W
Stark County, North Dakota — 8000' @ 1¢ per ft. — $80.00

PLEASE RETURN ONE COPY OF INVOICE.

Payment Enclosed X
Dispose of Samples

Signed

Attach Charge

803-51-1207

PLEASE PAY FROM INVOICE - NO STATEMENT WILL BE ISSUED

57

Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Ref JE 1794 Well Schank #15-15 Lease No. 803-51-1207

Administrative Overhead Drilling and Well Completion

Date	Days	Rate	Amount
May 18 to June 9, 1970	23	$400.00/Mo.	$300.65

In Account With

BEAUDOIN CONCRETE PRODUCTS

LESTER BEAUDOIN, Proprietor

E BLOCKS ★ WELL CURBING ★ SEPTIC TANKS ★ FEED BUNKS

TELEPHONE: 225-3101 ROUTE 2, BOX 102

Cardinal Petroleum

Billings, Montana

RECEIVED
JUL 6 1970

1% PER MONTH SERVICE CHARGE AFTER 60 DAYS

DATE		CHARGE	CREDIT	BALANCE
		9.79		9.79
1-5-7	for Shanks 15-16			
	By Flint			
	Joe Hacker			

PRINT BUSINESS

PAY LAST AMOUNT IN THIS COLUMN.

BALANCE FORWARD

3

ARMCO

Armco Steel Corporation
National Supply Division
ADDRESS REPLY TO DEPT. K P. O. BOX 723 HOUSTON, TEXAS 77001

PLEASE MAIL CHECKS TO NEAREST LOCATION

BOX 402, [illegible]
BOX 5914, DENVER, COLO. 80217
BOX 1984, HOUSTON, TEX. 77001
BOX 2515, LOS ANGELES, CALIF. 90054

MILL ORDER NO.	BUYER'S DATE	BUYER'S ORDER NO.	CODE	DIST.	SHIP REF. NO.	SHIP. DATE	C/P	INVOICE NO.
						5/31/70		7475T98986

WILLISTON

PAGE NO. 1

SOLD TO: CARDINAL PETROLEUM CO
BOX 2122
BILLINGS, MONT 59103

SHIP'D TO: SAME,
DICKINSON, N. DAK.

ROUTING AND CAR NO.: GETTER TRUCKING CO

SHIPPED FROM: WILLISTON, N.DAK.

F.O.B. MILL: WILLISTON

INVOICE DATE: 7-7-70

GROSS WEIGHT ACTUAL	GROSS WEIGHT BILL AS	STOP OFF AND MISC. CHARGES	CUST. STOP OFF AND MISC. CHARGES	FREIGHT RATE COLLECT	FREIGHT RATE PREPAID	DUNNAGE FREE	DUNNAGE TOTAL
127.961					X		

PRODUCT: SMLS API CSG ST&C K-55 R-2

FARM OR LEASE
WELL OR RIG: SHANK 15-15

ITEM		PCS	DIMENSIONS	WEIGHT	FEET	PRICE PER CFT	AMOUNT
1		154	5-1/2" OD X 15.5#	77679	5011.58	197.86	9,915.91
			COMP FRT			17.05	854.47

ARMCO
Armco Steel Corporation
National Supply Division
ADDRESS REPLY TO DEPT. K P. O. BOX 723 HOUSTON, TEXAS 77001

PLEASE MAIL CHECKS TO NEAREST LOCATION

BOX 360287M, PITTSBURGH, PA 15230
BOX 402, KANSAS CITY, MO. 64141
BOX 5914, DENVER, COLO. 80217
BOX 1984, HOUSTON, TEX. 77001
BOX 2515, LOS ANGELES, CALIF. 90054

MILL ORDER NO.	BUYER'S DATE	BUYER'S ORDER NO.	CODE	DIST.	SHIP REF. NO.	SHIP. DATE	C/P	INVOICE NO.
								7475T98986

PAGE NO. 2

SOLD TO: CARDINAL PETROLEUM CO

SHIP'D TO:

ROUTING AND CAR NO.:

SHIPPED FROM:

F.O.B. MILL:

INVOICE DATE: 7-7-70

GROSS WEIGHT ACTUAL	GROSS WEIGHT BILL AS	STOP OFF AND MISC. CHARGES	CUST. STOP OFF AND MISC. CHARGES	FREIGHT RATE COLLECT	FREIGHT RATE PREPAID	DUNNAGE FREE	DUNNAGE TOTAL

PRODUCT: SMLS CSG LT&C K-55 R-2

FARM OR LEASE
WELL OR RIG: 15-15

ITEM		PCS	DIMENSIONS	WEIGHT	FEET	PRICE PER CFT	AMOUNT
2		44	5-1/2" OD X 15.50#	22336	1441.	207.60	2,991.52
			COMP FRT			17.05	245.69

Page 1 of 2

CONTD ON PAGE 1

61

ARMCO

Armco Steel Corporation
National Supply Division
ADDRESS REPLY TO DEPT. K P. O. BOX 723 HOUSTON, TEXAS 77001

PLEASE MAIL CHECKS TO NEAREST LOCATION

BOX 3602874, PITTSBURGH, PA 15230
BOX 401, KANSAS CITY, MO 64141
BOX 5944, DENVER, COLO. 80217
BOX 1984, HOUSTON, TEX. 77001
BOX 2313, LOS ANGELES, CALIF. 90054

MILL ORDER NO.	BUYER'S DATE	BUYER'S ORDER NO.	CODE	DIST.	SHIP REF. NO.	SHIP. DATE	C/R	INVOICE NO.
								7475T98986

PAGE NO. 3

SOLD TO CARDINAL PETROLEUM CO

SHIP'D TO

ROUTING AND CAR NO.

SHIPPED FROM

F.O.B. MILL

GROSS WEIGHT ACTUAL	GROSS WEIGHT BILL AS	STOP OFF AND MISC. CHARGES	COST STOP OFF AND MISC. CHARGES	FREIGHT RATE COLLECT	FREIGHT RATE PREPAID	DUNNAGE FREE	DUNNAGE TOTAL

INVOICE DATE 7 7-76

FARM OR LEASE

PRODUCT SHLS CSG LT&C N-80 R-3

WELL OR NO. Schank 15-15

ITEM	PCS	DIMENSIONS	WEIGHT	FEET	PRICE PER CFT	AMOUNT
3	40	5-1/2" OD x 1 7#	27946	1644.	268.20	4,409.21
		COMP FRT			18.70	307.43
						18,724.23
		4% U. DIST. STATE TAX ON		17	316.64	692.67
						19,416.90
						360.19
		TERMS:				19,056.71
		2% DISC ON 18,009.31		803-51-1207		
		BAL NET CASH 1,407.59				
		IF PAID BY 7-20-76				
		PAY NET AMOUNT 19,056.71				
		30 DAYS NET				
		DISC PRICE BASED ON 197.86 CFT				
		DISC PRICE BASED ON 207.60 CFT			+ 4% TAX	
		DISC PRICE BASED ON 268.20 CFT				

IT IS HEREBY AGREED THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD BY US SUBJECT TO THE TERMS AND CONDITIONS STATED ON THE REVERSE SIDE OF THIS SHEET

Page 2 of 2

61

WIRELINE SERVICE
CASING PULLING SERVICE
MANUFACTURERS REPRESENTATIVES
HYDRAULIC POWER TONGS & CREWS
ROUSTABOUT CREWS
USED OIL FIELD EQUIPMENT



Phone 572-2135
Area Code 701
P. O. Box 1323
WILLISTON, N. DAK.-58801

No. 3043

SOLD TO:
Cardinal Drilling Co.
P. O. Box 1077
Billings, Montana

LOCATION:
Schank 15-15 Dickenson, Rig #10

TERMS:
ORDER NO. M Zahn
F. O. B.
INVOICE DATE 6-1-70

DESCRIPTION	UNIT PRICE	TOTAL
Three man casing crew with power tongs laying down 8,010' of 4½" casing----------	.095	760.95
5½" slip type elevators----------min. charge		75.00
5½" rotary slips----------min. charge		40.00
95 mileage charge over first free 200 miles	.25	23.75
		$899.70

Wisco DT 2714
Casing Running Div.

ARMCO · WILLISTON ND 58801
National Supply Division
Armco Steel Corporation

SALE ORDER/INVOICE NUMBER	CUSTOMER CODE	INVOICE DATE	O. S.	T. C.	DATE DEL'D OR SHIP'D	RECEIVING STORE
7475 — 98006-A	3030602	6-17-70	AZ	70	5/21/70	

SOLD TO
CARDINAL PETROLEUM CO
065-01300
BOX 2182
BILLINGS MT 59103

CUSTOMER ORDER NO.: Verbal
ORDERED BY OR REQN. NO.:
FARM OR LEASE: Shaul
WELL OR RIG:

SHIP TO
Barp
Dickinson, No. Dak.

RECEIVED
JUN 22 1970
CARDINAL

LV. TAX	SHIP VIA	PREPAID	COLLECT
		☐	☐

FREIGHT	OUT	I. C.

INTST.	SPEC.	E. U.
3600		

CASH DISCOUNT ALLOWED FOR PAYMENT WITHIN DISCOUNT TERMS
N = NONE

C	S	F	PRODUCT OR ITEM CODE	QUANTITY	UNIT MEAS.	DESCRIPTION	UNIT PRICE	AMOUNT	
			1 7320	1	EA	Additional Loading Time			
			2			To Load 5½" Casing after			
			3			dark.		71 50	N
			4 7320	1	EA	Additional time to totally			
			5			pipe at location & remove			
			6			thread protectors		60 00	N
			7			Above charges as per Getter			
			8			#0872			
			9 803-51-1207			803-51-1207			
			10						

CUSTOMER AGREES THAT HE IS FAMILIAR WITH SELLER'S PUBLISHED TERMS AND CONDITIONS. SELLER AGREES THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD AND DELIVERED SUBJECT TO OUR PUBLISHED TERMS AND CONDITIONS. UNLESS OTHERWISE SPECIFIED, CASH DISCOUNT ALLOWED IF PAID ON OR BEFORE 20TH OF MONTH FOLLOWING INVOICE DATE. INTEREST IS CHARGED ON ALL ACCOUNTS AFTER DUE DATE.

C/S 7/1/70

IF PAID IN ACCORDANCE WITH DISCOUNT TERMS DEDUCT $ .00

$131 50

MATERIAL LISTED ABOVE RECEIVED BY

REMIT PAYMENT TO
P. O. BOX 5944
DENVER, CO 80217

ORIGINAL INVOICE

INVOICE COPY

1019-SD

HALLIBURTON

A DIVISION OF HALLIBURTON COMPANY
FORM 1906-R1

SEND ALL REMITTANCES TO
P. O. DRAWER 1431
DUNCAN, OKLAHOMA 73533

PAGE 1 OF 2 PAGES

INVOICE & TICKET NO. 283540

WELL NO. AND FARM	COUNTY	STATE	DATE
1-A Stark	STARK	N. DAKOTA	6-1-70
OWNER	CONTRACTOR	DUNCAN USE ONLY	
CARDINAL PET. CO.	CO. TOOLS		

CHARGE TO	DELIVERED TO	LOCATION	CODE
CARDINAL PET. CO.		1 Glendive	55530
ADDRESS	SHIPPED VIA	LOCATION	CODE
BOX 1077 Billings, Mont.		2	
	CUST. INV. REQ. ORIG. & ☐1 ☐2 ☐3 ☐4 REQUISITION	LOCATION	CODE
	ORDER NO.	BULK MATERIAL DELIVERY TICKET NO. B-53420	
	TOTAL ACID - 30 DAYS	WELL TYPE	CODE
	NO. COPIES	Oil Development	00

DUNCAN USE ONLY

144330 5
CARDINAL PETROLEUM COMPANY
P.O. BOX 2564
BILLINGS, MONTANA 59103

TYPE AND PURPOSE OF JOB: Cement Prod. csg.

TERMS: DUE BY THE 20TH OF FOLLOWING MONTH. INTEREST CHARGED AFTER 60 DAYS FROM DATE OF INVOICE.
$ 7.73 Cash discount allowed if paid by due date.
$ .31 Tax adjustment may be deducted if discounted.

PRICE REFERENCE	SECONDARY REF. OR PART NO.	CODE L	CODE D	DESCRIPTION	UNITS 1 QTY.	UNITS 1 MEAS.	UNITS 2 QTY.	UNITS 2 MEAS.	UNIT PRICE	AMOUNT
2-C-1-C-D				Pumping Charge	7725	FT				813 50
5-002-014				Mileage	25	MI			.85	1.3 75
7-030-015				Top 5-1/2 plug	1	EA	5½	"	10.40	10 40
[illegible]				Baffle Set Plug	1	EA	5½	"	[illegible]	10 40
R-015-015				Hydraulic Treated Mud	150	BBL			.675	252 75
5-015-121				License Fee						100 00
3-213-004				Mud Flush	1000	gal			.23	230 00
660	807-954			Fluid Loss Controllers	4	EA	5½	"	16.50	66 00
10-A	814-505			Cement Float Shoe	1	EA	5½	"		82 10
40-A	823-121			Self-Fill-Dif. Collar	1	EA	5½	"		210 40
55	890-1603			Halliburton Weld A	1	EA	16			5 50
655	807-605			F-2 Lock Limit Clamp	1	EA	5½	"		2 05
601	809-402			K.W.C. Wall Cleaners	4	EA	5½	"	5.10	20 40
				Ticket continuation Sub Total						695 77
				SERVICE CHARGE ON MATERIALS RETURNED		CU. FT.				
500-207				SERVICE CHARGE	410	CU. FT.			.40	164 00
500-314				35709 TOTAL WEIGHT 100 LOADED MILES	172545	TON MILES			.26	464 22
									SUB TOTAL	3200 99
				TAX REFERENCES 800-029					N. Dak. TAX	88 95
									TAX	
									TAX	
									TOTAL	3289 94

8.04

3281.90

WAS JOB SATISFACTORILY COMPLETED?
WAS OPERATION OF EQUIPMENT SATISFACTORY?
WAS PERFORMANCE OF PERSONNEL SATISFACTORY?

X W. L. Walker
Customer or His Agent

O. T. Gullickson
Halliburton Operator

CC FORM 260
REV. 8-68

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
WILLISTON, NORTH DAKOTA	GLENDIVE, MONT.	06 03 70	1513412	

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO INVOICE NO.	INVOICE DATE
WALKER	SCHANK 15-15		06 25 70

SOLD TO:
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO
DICKENSON N DAK

SHIPPED VIA
COMPANY VEHICLE

201-50

00 493 9740

RECEIVED
JUL 1 1970
CARDINAL

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY
4	EA	NIPPLE, ADAPTER, VICTAULIC THR & GR, 4 X 4	2.55	NET	10.20	
3	EA	TEE, VICTAULIC, #20 4 IN	10.35	NET	31.05	
9	EA	COUPLING, VICTAULIC, STYLE 77, 4 IN	4.80	NET	43.20	
8	EA	2 IN 150# BLACK MALL GR JOINT UNION	2.22	NET	17.76	
4	EA	2IN 150# BLACK MALL GR JOINT UNION	2.72	NET	10.88	N
2	EA	3IN UNION GJ. 150# BLK MALL	9.06	NET	18.12	N
1	EA	5.5 BR X 2.5 LARKIN SR HEAD 2 OUT	308.00	NET	308.00	N

803-51-1207

NTW

	TAXES DETAIL	TAXES TOTAL	
17.57 NORTH DAKOTA TAX			17.57
		INVOICE AMOUNT	454.78

DISCOUNT KEY:
N - NET
S - 2% 10 DAYS

IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE 2.40

454.38

REMIT TO: P. O. BOX 809 DALLAS, TEXAS 75221

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY

DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	06 09 70	1498054	

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER & LOCATION CHARGE	ORDER ATTACHED TO	INVOICE DATE
BILL WALKER	SCHANK 15-15	INVOICE NO.	06 25 70

SOLD TO:
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO
SAME-DICKENSON, N. DAK.

SHIPPED VIA
COMPANY VEHICLE

368-20

00 493 9740

RECEIVED
JUL 13 70
CARDINAL

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY (See Below)
1	EA	NIPPLE, BELLED, LARKIN 5 1/2 8R M X SJ F	31.80	NET	31.80	N
1	EA	HEAD, CSG, LARKIN W/2 OUT 92 8-5/8 8R M X 5-1/2	260.00	NET	260.00	N
200	MI	COMPLIMENTARY DELIVERY CHARGE	40.00	NET	N/C	

803-51-1207

WSW

		TAXES DETAIL	TAXES TOTAL	
11.67 NORTH DAKOTA TAX				11.67
DISCOUNT KEY: N = NET; 1 = 1%; 2 = 2% 10 DAYS	IF THE STAGE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING	PROMPT PAYMENT DISCOUNT IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE	.00	INVOICE AMOUNT 303.47

REMIT TO P. O. BOX 809 DALLAS, TEXAS 75221

CE FORM 260
REV. 8-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	06 10 70	1498021	

RECEIVED
JUL 6 1970
CARDINAL

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)
BILL WALKER

CUSTOMER'S LOCATION CHARGE
SCHANK 15-15

ORDER ATTACHED TO INVOICE NO.

INVOICE DATE
06 29 70

SOLD TO:
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO
DICKENSON, NORTH DAK

SHIPPED VIA
COMPANY VEHICLE

443-20

00 493 9740

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT ("DENOTES PLUS FACTOR)	AMOUNT	KEY (SEE LEGEND)
1	EA	1-1/2 IN X 30 FT POLISHED ROD 511-36077	125.85	NET	125.85	N
1	EA	4103-5409-00 SUB-COUPLING, THRU-HARDENED	5.40	NET	5.40	
2	EA	4264-3002-07 CLAMP PR	34.80	NET	69.60	
1	EA	1-DPSB 3 8V X 1-1/2 HERCULES STFG BOX W/LUB WT 5200 UPPER GLAND	82.80	NET	82.80	
4	EA	28-022 1 IN SUCKER ROD CPLGS	6.60	NET	26.40	N
1	EA	1 IN X 7/8 IN JONES SUB CPLG TH	9.20	NET	9.20	N
1	EA	TEE, YELLOW PUMP, SBC 33 3 8V REG FEM TOP X 3 8V SO X 2 1/2 8-RD UP FEM BOT X 1 BLDR	15.25	NET	15.25	1
200	MI	COMPLIMENTARY DELIVERY CHARGE	40.00	NET	N/C	

203-51-1207

TAXES	DETAIL	TOTAL
13.28 NORTH DAKOTA TAX		13.28

DISCOUNT KEY:
N - NET 1 - 1%
0 - [illegible] 3 - 2% 10 DAYS
IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE 3.58

INVOICE AMOUNT 247.98

REMIT TO P. O. BOX 809 DALLAS, TEXAS 75221

344.30

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY

DALLAS, TEXAS

INVOICE COPY

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.
WILLISTON NORTH DAK	GLENDIVE MONT	6-3-70	151345

CUSTOMER'S ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	INVOICE DATE
WALKER	SCHANK 15-15	6-16-70

SOLD TO -
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO:
SAME AT DICKENSON NORTH DAK
VIA GETTER TRUCKING INC

SHIPPED VIA: COMPANY VEHICLE ☐ CALLED FOR ☐ PARCEL POST ☐ COMMON CARRIER ☒ FB

D-U-N-S 00-493-9740

ORDER ATTACHED TO INVOICE NO.

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SOLD SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT	AMOUNT	KEY (SEE BELOW)
8116.25	FT	2075 (2-7/8") SMLS TUBING API EUE 8RD J-55 RANGE 2 WEIGHT 6.50# 272 JTS PLUS FRT FROM CHICAGO TO DICKINSON @ 1.18CWT ON 52756# PLUS FRT FROM DICKINSON TO LOCATION @ .21CWT ON 52756# F/B B/L & PIPE TALLY ATTD ✓ 803-51-1207	101.28CFT	NET	8220.14	2
				NET	622.52	N
				NET	110.79	N
					8953.45	
~/						

TAXES

4% NORTH DAK SALES TAX	⇦ DETAIL	TOTAL ⇨	353.71
PROMPT PAYMENT DISCOUNT- IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE - 171.48		INVOICE AMOUNT ⇨	9307.16

DISCOUNT KEY,
N - NET
0 - 0%
1 - 1%
2 - 2% 10 DAYS

IF THE SPACE IN "KEY" COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING.

REMIT TO: P.O. Box 809 DALLAS, TEXAS 75221

9135.62

CE FORM 281
REV. 6-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY

P. O. BOX 359 DALLAS, TEXAS 75221

ORIGINAL CREDIT

Have been Checked

STORE LOCATION	SELLING LOCATION	DATE	CREDIT NO.
WILLISTON N D	GLENDIVE MONT	7-15-70	504655

CUSTOMER'S ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	SALES INVOICE DATE	SALES INVOICE NUMBER
	SCHANK 15-15	6-16-70	DT-1513415

RECEIVED
JUL 20 1970
CARDINAL

CREDIT ACCOUNT OF:

CARDINAL PETROLEUM COMPANY 5
BOX 1077
BILLINGS MT 59103

TOTAL AMOUNT OF SALES INVOICE
9307.16 DF

D-U-N-S 00-493-9740

QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	DISCOUNT	AMOUNT	KEY (SEE BELOW)
29.67	FT	2875 2-7/8" SMLS TUBING API EUE 8RD J-55 RANGE 2 WT 6.50 #/FT PLUS FREIGHT FROM CHICAGO TO DICKENSON @ 1.18 CWT ON 193# PLUS FREIGHT FROM DICKINSON TO LOCATION @ .21 CWT ON 193#	101.28CFT	NET NET NET	30.05 2.28 .41 (32.74)	2 N N

803-51-12-07

4% ILL TAX — TAXES DETAIL / TOTAL — 1.31

DISCOUNT KEY:
N - NET
0 - 1%
1 - 1%
3 - 2% 10 DAYS

IF THE SPACE IN "KEY" COLUMN IS BLANK TERMS ARE 2% 20TH FOLLOWING.

PROMPT PAYMENT DISCOUNT IF PAYMENT WAS MADE IN ACCORDANCE WITH TERMS OF SALE. L .63

CREDIT AMOUNT 34.05

THIS CREDIT IS SUBJECT TO SAME CASH DISCOUNT AS MAY HAVE BEEN APPLIED TO ORIGINAL INVOICE

(33.42)

20764

ARMCO

National Supply Division
Armco Steel Corporation

FULL ORDER/INVOICE NUMBER	CUSTOMER CODE	INVOICE DATE	O. S.	T. C.	DATE REQ'D OR SHIP'D	RECEIVING STORE
-98913		6-9-70				

SOLD TO

CUSTOMER ORDER NO	ORDERED BY OR REQN. NO

FARM OR LEASE	WELL OR RIG

SHIP TO: Same

EX TAX	SHIP VIA	PREPAID	COLLECT
0	TOL	☐	☐

FREIGHT	OUT	I. C.

CASH DISCOUNT ALLOWED FOR PAYMENT WITHIN DISCOUNT TERMS. N = NONE

INTST	SPEC	E. U.
3600		

C	S I F	PRODUCT OR ITEM CODE	QUANTITY	UNIT MEAS	DESCRIPTION	UNIT PRICE	AMOUNT	T
		1115450	1	EA	5 1/2 OD 8RD K-55		14 12	
					Long Casing Coupling			
					V-1964			
					703-51-1207			
		[illegible]	1	EA	4 7/8 ND Safety Jt		57	

CUSTOMER AGREES THAT HE IS FAMILIAR WITH SELLER'S PUBLISHED TERMS AND CONDITIONS. SELLER AGREES THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD AND DELIVERED SUBJECT TO OUR PUBLISHED TERMS AND CONDITIONS. [illegible] MAY BE TAKEN AS CASH DISCOUNT ALLOWED IF PAID ON OR BEFORE 20TH OF [illegible] FOLLOWING INVOICE DATE. INTEREST IS CHARGED ON ALL ACCOUNTS AFTER DUE DATE.

IF PAID IN ACCORDANCE WITH CASH DISCOUNT TERMS DEDUCT $.

14 69

DATA AS GIVEN ABOVE RECEIVED BY

REMIT PAYMENT TO:

INVOICE COPY

SCHLUMBERGER WELL SERVICES

A DIVISION OF SCHLUMBERGER TECHNOLOGY CORPORATION

CHECK MAILING ADDRESS — LOCK BOX 2103
CORRESPONDENCE MAILING ADDRESS — P. O. BOX 2175
HOUSTON, TEXAS 77001

THE HIGH PERFORMANCE COMPANY

RECEIVED
JUN 19 1970
CARDINAL

CARDINAL PETR CO
BOX 1077
BILLINGS MONT

TERMS
NET CASH
NO DISCOUNT ALLOWED

INVOICE DATE	SERVICE ORDER DATE	SERVICE ORDER NO.	YOUR ORDER NO.	INVOICE NO
06-03-70	06-03-70	01223		4- 9355

STATE	FIELD	LEASE	
ND	DICKINSON	SCHANK	
	LOCATION	WELL	OFFSHORE ZONE
	SEC 15-140N-96W	15-15	

			AMOUNT	
			$	
SCH	SC HYPER JET			
	TRANSMISSION BY TELELOG		30.00	
10	SHOTS BTWN 7/8 MFT MIN		635.00	
14	SHOTS BTWN 7/8 MFT @	12.25	171.50	
7896	FEET DEEPEST DEPTH			
			836.50	*
GRN	GAMMA RAY-NEUTRON			
7944	FEET DEPTH CHARGE @	.10	794.40	
1444	FT MIN OPER CHG		135.00	
			929.40	*

CUSTOMER	ENGINEER	LOCATION
16605	020867	4109

CHECK MAILING ADDRESS — LOCK BOX 2103
CORRESPONDENCE MAILING ADDRESS — P. O. BOX 2175
HOUSTON, TEXAS 77001

TOTAL CHARGE
PAY THIS AMOUNT $ 1,765.90 **

BAKER DIVISION

P. O. BOX 1049, HOUSTON, TEXAS 77001
REMIT TO LOCK BOX 952, HOUSTON, TEXAS 77001

ITEMS MARKED (*) ARE SPECIAL AND PRICES MAY NOT BE FOUND IN OUR CURRENT PRICE BOOK.

PLEASE REFER TO THIS NUMBER WHEN REMITTING

INVOICE

TERMS: NET 30 DAYS
INTEREST CHARGEABLE AFTER END OF MONTH FOLLOWING DATE OF INVOICE.

INVOICE DATE	INVOICE NUMBER
06-17-70	57707

Cardinal Petroleum Company
Box 1077
Billings, MT 59103

SHIP TO
Dickinson Field - Stark County, North Dakota

Schank 15-15

BC615	Our Del		DATE SHIPPED 06-03-70		CASH SALE
Glendive, Montana		SHIP VIA	374-64079	CUSTOMER ORDER NO	CUSTOMER REF NO

QUAN	UNIT PRICE	COMMODITY NO	PRODUCT DESCRIPTION	DISC.	TOTAL
			45A Mod EA Retrievamatic Cntr, 407-05 7001-8000'		391.00
6	12.50		Addtl Hrs, 407-05		75.00
1			45A Mod B Tbg Anchor Catcher W/2-7/8 EUE 8rd BRP W/50,000# Shear Valve, 698-04		418.00
			4% North Dakota Tax on 418.00		16.72
					900.72

2

CUSTOMER

DOWELL DIVISION OF THE DOW CHEMICAL COMPANY

1801

SERVICE AND INVOICE NUMBER 15-2-6350

TERMS: NET 30 AND LEGAL INTEREST THEREAFTER. 177757

{Please indicate on all remittances and send to: 1579 EAST 21 STREET TULSA, OKLAHOMA 74114

SERVICE ORDER RECEIPT AND INVOICE

DATE	CUSTOMER ORDER NO.	SHIPPED VIA	SERVICE FROM DOWELL STATION	OUTPOST
6-3-70		DOWELL	Glendive	33

WELL NAME AND NUMBER	LOCATION AND POOL	TYPE OF SERVICE
Schenk 15-15	SEC 15 - 140N - 96W	Pump Rental

COUNTY, CITY OR WITHIN CITY LIMITS & STATE: Stark No. Dak.

CUSTOMER'S NAME: Cardinal Petroleum Co.

ADDRESS: Box 1077

CITY, STATE & ZIP CODE: Billings, Montana 59101

SERVICE INSTRUCTIONS: Pump Treated S/W in Hole To Displace Hole

SERVICE ORDER

IMPORTANT: SEE OTHER SIDE FOR TERMS & CONDITIONS

I have read, understood and agreed to the terms & conditions printed on the reverse side hereof and represent that I have full authority to accept same and sign this order.

CUSTOMER BY _____ AUTHORIZED AGENT

FOR CUSTOMER USE

JUN 9 1970

ITEM NO.	QUANTITY	UNIT	Material, Equipment and Services Used	Unit Price	AMOUNT
18023-004	1	Ea.	TO Pump	260.00	260.00
67011-001	9	cwt	Potassium Chloride	6.70	60.30
22002-002	23	gal	17-38	18.00	414.00
			SUB TOTAL		734.30
			Gallons License Fee		
			Gallons License Fee		
4	%	N.D.	Tax on $ 474.30		18.97
	%		Tax on $		
			TOTAL		753.27

"Seller warrants that all goods or services furnished hereunder comply with the requirements of the Fair Labor Standards Act of 1938 as amended."

23-6350

DOWELL ENGINEER DC

PATROL NO. PCC

RECEIPT: THE UNDERSIGNED HEREBY CERTIFIES THAT THE MATERIALS AND EQUIPMENT LISTED ABOVE WERE RECEIVED AND THE SERVICES WERE PERFORMED IN A WORKMANLIKE MANNER.

CUSTOMER BY W L Walker AUTHORIZED AGENT

DWL-260-J PRINTED IN U.S.A.

-250

750.77

COPIED

SERVICE AND INVOICE NUMBER 15-2-6552 TERMS: NET 30 ADD LEGAL INTEREST THEREAFTER

Please indicate on all remittances and send to: 1579 EAST 21 STREET TULSA, OKLAHOMA 74114

127757

SERVICE ORDER RECEIPT AND INVOICE

DATE	CUSTOMER ORDER NO.	SHIPPED VIA	SERVICE FROM DOWELL STATION	OUTPOST
6-4-70		Dowell	Glendive	33

WELL NAME AND NUMBER	LOCATION AND POOL
Schank 15-15	SEC 15 - 140N - 96W

COUNTY, CITY (IF WITHIN CITY LIMITS) & STATE	TYPE OF SERVICE
Stark, No. Dak.	Acid

CUSTOMER'S NAME: Cardinal Petroleum Co.

ADDRESS: Box 1077

CITY, STATE & ZIP CODE: Billings, Montana ZIP CODE

SERVICE INSTRUCTIONS: Acidize Pers-5 - 7886 To 7892
250 gal BDA - 2 gal IM-38 -

SERVICE ORDER

IMPORTANT: SEE OTHER SIDE FOR TERMS & CONDITIONS

I have read, understood and agreed to the terms & conditions printed on the reverse side hereof and represent that I have full authority to accept same and sign this order.

CUSTOMER BY

AUTHORIZED AGENT

FOR CUSTOMER USE

JUN 9 1970

ITEM NO.	QUANTITY	UNIT	Material, Equipment and Services Used	Unit Price	AMOUNT
18000-004	1	Ea	TO Pump	295.00	295.00
00103-000	750	gal	BDA	.58	435.00
11007-055	5	gal	A-130 Inhib. for	7.75	38.75
22002-052	2	gal	IM-38	18.00	36.00
59200-001	80	mi	BFZ - (1 unit)	.85	68.00
			SUB TOTAL		872.75
		Gallons	License Fee		
		Gallons	License Fee		
4 %		N.D. Sales	Tax on $ 509.75		30.39
%			Tax on $		
			TOTAL		$893.14

"Seller warrants that all goods or services furnished hereunder comply with the requirements of the Fair Labor Standards Act of 1938 as amended."

1 256880

DOWELL ENGINEER DC Lof PAYROLL INFO. DEC

RECEIPT OF CUSTOMER HEREBY CERTIFIES THAT THE MATERIALS AND EQUIPMENT LISTED ABOVE WERE RECEIVED AND THE SERVICES WERE PERFORMED IN A WORKMANLIKE MANNER.

CUSTOMER BY W. Lewis AUTHORIZED AGENT

600463

DWL-260-J PRINTED IN U.S.A.

DOWELL A DIVISION OF THE DOW CHEMICAL COMPANY

SERVICE AND INVOICE NUMBER 15-2-6552
TERMS: NET 30 ADD LEGAL INTEREST THEREAFTER.

{Please indicate on all remittances and send to: 1579 EAST 21 STREET TULSA, OKLAHOMA 74114

127757

SERVICE ORDER RECEIPT AND INVOICE

DATE	CUSTOMER ORDER NO.	SHIPPED VIA	SERVICE FROM DOWELL STATION	OUTPOST
6-5-70		DOWELL	Glendive	33

WELL NAME AND NUMBER	LOCATION AND POOL
Schank 15-15	SEC 15-140N-96W

COUNTY, CITY (IF WITHIN CITY LIMITS) & STATE	TYPE OF SERVICE
Stark, No. Da K.	Water Frac 40

SERVICE ORDER

IMPORTANT: SEE OTHER SIDE FOR TERMS & CONDITIONS

I have read, understood and agreed to the terms & conditions printed on the reverse side hereof and represent that I have full authority to accept same and sign this order.

CUSTOMER BY W Lwalk

CUSTOMER'S NAME: Cardinal Petroleum Co
ADDRESS: Box 1077
CITY, STATE & ZIP CODE: Billings, Montana ZIP CODE 59101

FOR CUSTOMER USE

JUN 16 1970

SERVICE INSTRUCTIONS: Frac perfs - 7886 to 7996 with 5/M# Containing 83# - KCL - 40# J-133 - 2 gal - M-38 / per 1000 gal - 2000# - 20-40 Sand 2500# 10-20 + 2500# 8-12 Beads

ITEM NO.	QUANTITY	UNIT	Material, Equipment and Services Used	Unit Price	AMOUNT
67011-001	25	CWT	Potassium Chloride	6.70	167.50
72002-052	60	gal	M-38	18.00	1080.00
24016-050	1500	lbs	J-133	1.05	1575.00
25008-001	20	CWT	20-40 Sand	2.69	53.80
25005-001	75	CWT	10-20 Sand	2.77	207.75
25012-100	2500	lbs	8-12 Beads	.45	1125.00
29110-000	75	CWT	Prop pump Chg Sand	.30	22.50
29111-000	25	CWT	Prop pump Chg Bead	1.10	27.50
29100-000	499	T/M	Mileage Sand	.26	129.74
29101-000	132	T/M	Mileage Beads	.35	46.20
59200-001	320	Mi	BFL (4 units)	.85	272.00
28001-010	1480	HHP	30.2 X 2000 psi 4000 #	1.27	1879.60
28417-000	1	EA	Blender 20-30 BPM	235.00	327.00
			SUB TOTAL		6913.57
		Gallons	License Fee		
		Gallons	License Fee		
4	%	N.D	Tax on $ 4202.05		168.36
	%		Tax on $		
			TOTAL		$7081.93

"Seller warrants that all goods or services furnished hereunder comply with the requirements of the Fair Labor Standards Act of 1938 as amended"

DOWELL ENGINEER DC RL

1 25-6880 PAYROLL INIT. DCG

RECEIPT: THE UNDERSIGNED HEREBY CERTIFIES THAT THE MATERIALS AND EQUIPMENT LISTED ABOVE WERE RECEIVED AND THE SERVICES WERE PERFORMED IN A WORKMANLIKE MANNER.

CUSTOMER BY W Lwalk

609464

OWL-260-J PRINTED IN U.S.A.

MATADOR

No 2042

VOUCHER NO. JV6-25-5
035-110-01-00-14010

MATADOR Service, Inc. / "Serving the Petroleum Industry"

AREA CODE 316 PHONE TE 8-7741 / P.O. BOX 2256 - WICHITA, KANSAS 67201

June 25, 1970

Cardinal Petro Corp
Billings, Montana

WE Debit YOUR ACCOUNT AS FOLLOWS: Shank 22-22 Crude Oil

6-08	33700237	
6-09	33700-238	

pr attached....$ 94.40

MATADOR

No 2938

VOUCHER NO. JV6-25-1
035-110-01-00-14010

MATADOR Service, Inc. / "Serving the Petroleum Industry"

AREA CODE 316 PHONE TE 8-7741 / P.O. BOX 2256 – WICHITA, KANSAS 67201

June 25, 1970

Cardinal Petro Corp
P. O. Box 2564
Billings, Montana 59103

WE Debit YOUR ACCOUNT AS FOLLOWS: Shank 15-15 P/Water

6-04 09260-204

per attached.....$ 106.20

MATADOR

No 2940

VOUCHER NO. JV6-25-3
035-110-01-00-14010

MATADOR Service, Inc. / "Serving the Petroleum Industry"

AREA CODE 316 PHONE TE 8-7741 / P.O. BOX 2256 – WICHITA, KANSAS 67201

June 25, 1970

Cardinal Petro Corp
Billings, Montana

WE Debit YOUR ACCOUNT AS FOLLOWS: Shank 22-22 P/Water

6-04 33700-228

per attached.....$ 76.70

MATADOR

№ 2939

VOUCHER NO. JV6-25-2
035-110-01-00-14010

MATADOR Service, Inc. / "Serving the Petroleum Industry"

AREA CODE 316 PHONE TE 8-7741 / P.O. BOX 2256 – WICHITA, KANSAS 67201

June 25, 1970

Cardinal Petro Corp
Billings, Montana

WE Debit YOUR ACCOUNT AS FOLLOWS: Shank 15-15 S/Water

6-02	00260-201
6-03	00260-202
6-04	00260-203

per attached....$ 241.30

MATADOR

№ 2941

VOUCHER NO. JV6-25-4
035-110-01-00-14010

MATADOR Service, Inc. / "Serving the Petroleum Industry"

AREA CODE 316 PHONE TE 8-7741 / P.O. BOX 2256 – WICHITA, KANSAS 67201

June 25, 1970

Cardinal Petro Corp
Billings, Montana

WE Debit YOUR ACCOUNT AS FOLLOWS: Shank 22-22 S/Water

6-02	33700-220
6-04	33700-227

per attached....$ 129.80

OIL WELL SERVICING

RECEIVED JUN 19 1970 CARDINAL

R. A. Patcher & Sons, Inc.

Well Servicing

OIL WELL WORKOVER

No 09903

PHONE 664-2371 P. O. BOX. 716 TIOGA, NORTH DAKOTA June 16, 1970

Cardinal Petroleum Company
Box 1077, Billings, Mont. 59103

Shank 15-15 7760,7761.
Tckt's 7754,7755,7756,7757,7758,7759,

To bill for Tagging w/Tbg. Pull Tbg. Rerun Tbg. w/Packer, well was acidized,Logged & Perforate
Set Packer.Swabbing Operations. Runing Mud Anchor, Seating Nipple and Baker Anchor.& Set.
Swabbi ng operations on Well. RunRods & Pump. & Set Pump. Shut Well in. Rigged down & Move.

Date	Hours	Hourly Rate	Total
15 Unit Time			
June 2, 1970	2	36.50	73.00
June 3, 1970	17	36.50	620.50
June 4, 1970	18	36.50	657.00
June 5, 1970	9	36.50	328.50
June 6, 1970	11	36.50	401.50
June 7, 1970	11½	36.50	419.75
June 8, 1970	11	36.50	401.50
June 9, 1970	5½	36.50	200.75
			3,102.50=
LABOR & L. TRAVEL			
June 2-9, 1970	7½ Operators	5.00	37.50
	7½ Helpers	4.50	67.50
	78 Ex. Helpers	4.50	351.00
			456.00
MATERIAL			
1-2 7/8" Pipe Wiper Rubber, at $13.15 Ea. w/tax			13.68
34 Sets of 2 7/8" "UF" Swab Cups (68 Cups) at $5.30 Ea. w/tax			403.10
14 Sets of 2 7/8" "J"Swab Cups (28 Cups) at $5.70 Ea. w/tax			165.98
10-Set of 2 7/8" Regal Sand King Swab Cups(20 Cups) at$5.70 Ea.w/tax			118.56
30 -Oil Savr Rubbers, Type "H" AT$3.00 Ea. w/tax			93.60
50 Lbs., of Jet Lube Thread Dope at $. $ 19.95 (2-5-Gal. Cans)			41.50
			836.42
		803-51-1207	
		TOTAL	4,394.92

OK MW

LUFKIN INDUSTRIES, INC.
-INVOICE-

TO Chuck Giese

~~LUFKIN FOUNDRY & MACHINE COMPANY, INC.~~

BOX 849
LUFKIN, TEXAS 75901

6-12-70

ACCOUNTING

COL. 13-20	ACCOUNTS REC.			
21-23	SALES CODE			
24-31	SALES AMOUNT			
32-34	TAX CODE			
35-42	TAXABLE AMOUNT			
43-48	TAX AMOUNT			
49-51	NON-TAX CODE			
52-59	NON-TAX AMOUNT			
60-65	OWN TRUCKS			
66-71	FREIGHT			
72-74	CUSTOMER CODE			
75	MISC.			

Customer
Order No.
Requisition No.
Destination

Invoice Date 6-12-70
Invoice No. 324056
Shipper's No.

RECEIVED JUN 16 1970 ORIGINAL

Same; %
Bill Walker, Dickinson, North Dakota

Cardinal Pet. Co.
Box 1077
Billings, Montana 59101

Marks
F.O.B.
Date Shipped 6-8-70
How Shipped and Route Walker-PPD

#15-15 Shank
Location

ITEM	QUANTITY	PART NO.	DESCRIPTION	EACH	EXTENSION	TOTAL
	1		LUFKIN C-640D-304-144 Unit, Series "F-G" with Unit and Base, 51.4" PD DC Unit Sheave, Belt Cover for 75 HPElec. Mtr.			14,075.00
	4		#1RO Counterweights	Priced with unit		
	1		Hi-Prime Bracket Assy.	"	"	"
	1		Set Anchor Nuts (From Casper) & Hold Down Clamps	"	"	"
	1		Set Sheep-Proof Crank Guards	"	"	"
	1		Lot Chevron SAE 80 Gear Oil	"	"	"
	8		C240 V-Belts			119.28
			Fdn: B35242			14,194.28
					4% North Dakota State Tax	567.77
					$	14,762.05
						283.88
						# 14,478.17

Type: C-640D-304-144
Serial: F34104G
Lufkin Order # 324056

803-51-1207

CASH DISCOUNT NOT ALLOWED ON FREIGHT OR TAXES

OK WSW

TERMS: 2% TEN DAYS 30 DAYS NET. SUBJECT TO 1% PER MONTH LATE CHARGE.

BY ACCEPTANCE OF ITEMS LISTED HEREIN, THIS INVOICE BECOMES PAYABLE IN LUFKIN, ANGELINA COUNTY, TEXAS.

CE FORM 260
REV. 6-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF [illegible] SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

2

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	06 10 70	1498052	

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO	INVOICE DATE
BILL WALKER	SCHANK 15-15	INVOICE NO.	06 18 70

SOLD TO:
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO
DICKENSON, NORTH DAK.

SHIPPED VIA
COMMON CARRIER

250-20

00 493 9740

RECEIVED
JUN 23 1970
CARDINAL

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY
2450	FT	4101-4825-63 3/4X25 #8 SKR ROD W/ 9463 CPLG	.5745	20	1126.02	
625	FT	4101 5825 63 7/8X25 #8 SKR ROD W/ 9503 CPLG	.7455	20	372.75	
1525	FT	4101-5825-63 7/8X25 #8 SKR ROD W/ 9563 CPLG	.7455	20	909.51	
1900	FT	4101-6825-64 1X25 #8 SKR ROD W/ 9664 CPLG	.9655	20	1467.56	
1	EA	4102-6802-00 1X2 #8 PONY ROD LESS CPLG	16.10	NET	16.10	
1	EA	4102-6804-00 1X4 #8 PONY ROD LESS CPLG	19.90	NET	19.90	
1	EA	4102-6806-00 1X6 #8 PONY ROD LESS CPLG	23.50	NET	23.50	
1	EA	4102-6808-00 1X8 #8 PONY ROD LESS CPLG	27.30	NET	27.30	

803-51-1207

WTW

158.51 NORTH DAKOTA TAX

TAXES: DETAIL | TOTAL → 158.51

DISCOUNT KEY:
N = NET 1 - 1%
C = [illegible] 3 - 2% 10 DAYS
IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING.

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE 82.42

INVOICE AMOUNT → 4,121.15

4,038.93

REMIT TO P. O. BOX 809 DALLAS, TEXAS 75221

AXELSON

DIVISION OF U.S. INDUSTRIES, INC.

P.O. BOX 2427, LONGVIEW, TEXAS 75601 (214) 753-5711, CABLE: USI LONGVIEW

INVOICE

No. ~~T-0509~~ 119508

DATE 6-11-70

IN ACCOUNT WITH Cardinal Petroluem Company

Box 1077

Billings, Montana 59101

DELIVER TO Samo

Dickinson, North Dakota

DATE SHIPPED 6-6-70

LEASE Schenk WELL NO. 15-15

FIELD Dickinson

COUNTY Stark STATE N. Dakota

P. O. REQ'D ~~NO~~ NO

YOUR ORDER NO.	REQ. NO.	REF. ORDER NO.	TERMS
			2% 13, NET 30 ☒ ½% 10, NET 30 ☐ NET 30 ☐

CUST. NO.	STATE	EX	DISTRICT	BLM. NO.	SHIPPED VIA
02172	32	0	226		Our Delivery

QTY. SHIPPED	PART NO.	DESCRIPTION	UNIT LIST	DISC. %	NET	ACCT'G USE
		Continued From DT 119508				
1	118743	Ball & Seat	49.75		49.75	
1	120057-070	Hold-Down Assm.	29.69		29.69	
1	120074	Coupling	3.65		3.65	
					856.85	
		Less Discount			(171.37)	
					685.48	
		Material & Labor to Build 12'				
		Gas anchor for bottom of pump			15.00	
					700.48	
		4% North Dakota Sales Tax			28.02	341
					728.50	
		803-51-1207				
		TOTAL			728.50	

RECEIVED BY

STOCK FROM #226 Glendive, Montana

14.57

BY A. C. Storlie

713.93

PRINTED IN U.S.A.
FORM AXELSON FIELD FORM 1429A

AXELSON

DIVISION OF U.S. INDUSTRIES, INC.

P.O. BOX 2427, LONGVIEW, TEXAS 75601 (214) 753-5711, CABLE: USI LONGVIEW

INVOICE No. 119508

DATE 6-17-70

Page I of II

IN ACCOUNT WITH Cardinal Potroluem Company

Box 1077

Billings, Montana 59101

DELIVER TO Same

Dickinson, North Dakota

DATE SHIPPED 6-6-70

LEASE Schank WELL NO. 15-15

FIELD Dickinson

COUNTY Stark STATE N. Dakota

P. O. REQ'D-SEE-NO

YOUR ORDER NO.	REQ. NO.	REF. ORDER NO.	TERMS
			2% 15, NET 30 X. 1½% 10, NET 30 ☐ NET 30 ☐

CUST. NO	STATE	ER	DISTRICT	B.L.M. NO.	SHIPPED VIA
03172	32	0	226 ✓		OurDolivery

QTY. SHIPPED	PART NO.	DESCRIPTION	UNIT LIST	DISC. %	NET	ACCT'G USE
1		New 2½ x 2 x 24 Axelson RWBC Pump #1195 W/Single Valves (S)TC (B)SS, S'				
		Axite Plunger, 24' Chrome Plate ID Barrel, Insert Type Cages, and Bottom				
		Cup Hold-down consisting of:				
1	125780	Sprial Guide	25.35		25.35	
1	120301	Valve Rod Bushing	10.50		10.50	
1	119540-220	Valve Rod	56.00		56.00	
1	205471	Top Cage	12.07		12.07	
1	120622-0630003	Plunger	172.00		172.00	
1	119392	Cage	31.00		31.00	
1	118746	Ball & Seat	39.00		39.00	
1	120209	Seat Plug	4.75		4.75	
1	123116	Rod Guide	19.41		19.41	
1	115080	Connector	5.93		5.93	
1	121008-288	Barrel Tube	357.85		359.25	
1	119471	Cage	33.10		33.10	
		Continued On DT 119509 TOTAL		Cont'd		

RECEIVED BY W. L. Walker

STOCK FROM #226 Glendive, Montana

BY J. C. Storlie

PRINTED IN U.S.A.
FORM 812014 (OLD FORM 14-2A)

STARK READY-MIX COMPANY

Box 306 Phone 225-5106

DICKINSON, NORTH DAKOTA

CUSTOMER'S ORDER NO. DATE June 9 19 70

SOLD TO Cardinal Petroleum

ADDRESS

JOB

Sold By	Cash	Charge	On Acct.	Paid Out

		NO CU YDS	CEMENT CONTENTS PER CU YDS	Unit Price Cu. Yds.	TOTAL
CEMENT 1763	lbs.	3 3/4	5bg	17.90	67.13
GRAVEL	Lb. or Cu. Yd.				
SAND	Lb. or Cu. Yd				

DISTANCE OF HAUL 2 MILES 55 1.50

WATER ADDED GALS. 68.63

SALES TAX 2.75

TOTAL 71.38

THIS CONCRETE CONTAINS CORRECT WATER CONTENTS FOR STRENGTH OR MIX INDICATED.
WE DO NOT ASSUME RESPONSIBILITY FOR STRENGTH TEST WHEN WATER IS ADDED AT CUSTOMER'S REQUEST.
THE MAXIMUM UNLOADING TIME ALLOCATED IS 20 MINUTES PER LOAD, AFTER THAT THERE WILL BE A TRUCK TIME CHARGE.
1% PER MONTH CARRYING CHARGE, ON ALL PAST DUE ACCOUNTS.

No. 21858

Rec'd By

B

STARK READY-MIX COMPANY

Box 306 Phone 225-5106

DICKINSON, NORTH DAKOTA

CUSTOMER'S ORDER NO. DATE June 9 19 70

SOLD TO Cardinal Petroleum

ADDRESS

JOB

Sold By	Cash	Charge	On Acct.	Paid Out

		NO. CU YDS	CEMENT CONTENTS PER CU YDS	Unit Price Cu. Yds.	TOTAL
CEMENT 350	lbs.	5	5Bag	17.90	89.50
GRAVEL	Lb. or Cu. Yd.				
SAND	Lb. or Cu. Yd				

DISTANCE OF HAUL 2 MILES 75 1.50

WATER ADDED GALS. 91.00

SALES TAX 3.64

TOTAL 94.64

THIS CONCRETE CONTAINS CORRECT WATER CONTENTS FOR STRENGTH OR MIX INDICATED.
WE DO NOT ASSUME RESPONSIBILITY FOR STRENGTH TEST WHEN WATER IS ADDED AT CUSTOMER'S REQUEST.
THE MAXIMUM UNLOADING TIME ALLOCATED IS 20 MINUTES PER LOAD, AFTER THAT THERE WILL BE A TRUCK TIME CHARGE.
1% PER MONTH CARRYING CHARGE, ON ALL PAST DUE ACCOUNTS.

No. 21857

DICKINSON LUMBER CO. 8059

646 EAST VILLARD STREET
DICKINSON, N. DAK. 58601

Dial 225-8152 Box 1248

Sold to Orville Peterson Date 6-8 1970

Mail Address Box 151 City

Job Address Gladstone Order No.

SOLD BY	CASH	C.O.D.	CHARGE	CHARGE	MDSE. RETD	PAID OUT	APPROVED BY
				✓			

QUANTITY	DEPT.	DESCRIPTION	FEET	PRICE	AMOUNT
7	-	2x12-8' Com		22	5 44
2	-	2x6-10 Com		140	2 80
1	-	2x8-10' Com			2 00
					10 24
				tax	41
					(10 65)
		803-51-1207			
2	-	2x12-10' Com		340	6 80
1	-	2x12-12' Com			4 08
2	#	16 Dunlap			54
2	#	16 Bld			40
2	#	10 Eup.			40
					12 22
				tax	49
					12 71
					=

All claims and returned goods MUST be accompanied by this bill.

Recv'd By Gladstone Lbr Dan Brevort

DICKINSON LUMBER CO. 8158

646 EAST VILLARD STREET
DICKINSON, N. DAK. 58601

Dial 225-8152 Box 1248

Sold to Orville Peterson Date 6-9 1970

Mail Address Box City

Job Address Gladstone 15-15 Order No.

SOLD BY	CASH	C.O.D.	CHARGE	CHARGE	MDSE. RETD	PAID OUT	APPROVED BY
					✓		

QUANTITY	DEPT.	DESCRIPTION	FEET	PRICE	AMOUNT
2	-	1/2 x 20 Comp Rub		155	3 10
				tax	13
					323
					=
		803-51-1207			

All claims and returned goods MUST be accompanied by this bill.

Recv'd By Dan Brevort - Gladstone

DICKINSON LUMBER CO. 7981

646 EAST VILLARD STREET
DICKINSON, N. DAK. 58601

Dial 225-8152 Box 1248

Sold to Cardinal Petro Date 6-2 1970

Mail Address City

Job Address 2 Lots NE 15-138-96 Order No.

SOLD BY	CASH	PAID	CHARGE	ON ACCT.	MDSE. RET'D	PAID OUT	APPROVED BY
			✓				

QUANTITY	DEPT.	DESCRIPTION	FEET	PRICE	AMOUNT
✓ 5		16 Douglas Fir		40	2 00
✓ 11½		wire		22	2 53
✓ 1		20' X ¾ Tape			6 98
✓ 4		1X4 = 10' Redwood Clear 320			12 80
✓ 2		1X8 = 8' Redwood Clear 256			5 12
✓ 12	-	2X12-8' Comm		272	32 64 ✓
✓ 6	-	2X12-12' Comm		408	24 48 ✓
✓ 1	-	2X8-12' Comm			2 40
✓ 2	-	2X6-12' Comm		168	3 36
✓ 12		2X4-12' Comm		120	14 40
✓ 8		2X4-10' Comm		100	8 00
					114 71
				tax	4 59
		803-51-1207			119 30 ✓

WHW

All claims and returned goods MUST be accompanied by this bill.

Recv'd By Flint Eng & Const by Don Haggart

DICKINSON LUMBER CO. 8004

646 EAST VILLARD STREET
DICKINSON, N. DAK. 58601

Dial 225-8152 Box 1248

Sold to Cardinal Petro Date 6-8-1970

Mail Address City

Job Address 15-15 Flint Order No.

SOLD BY	CASH	PAID	CHARGE	ON ACCT.	MDSE. RET'D	PAID OUT	APPROVED BY
			✓				

QUANTITY	DEPT.	DESCRIPTION	FEET	PRICE	AMOUNT
400 LFT.		½ Spruce	20+	155	31 00
				TAX -	1 24
					32 24
		803-51-1207			

WHW

All claims and returned goods MUST be accompanied by this bill.

Recv'd By Flint by Don Haggart

INVOICE

CSC

CONNOR

SALES COMPANY, INC.

BOX 112 PHONE 701-572-9356
WILLISTON, NORTH DAKOTA 58801

TREATERS
TANKS
WALKWAYS
HEATERS
SEPARATORS
CONTROLS

RECEIVED
SEP 15 1970
CARDINAL

To: Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Invoice No. 119-706
Date: 6-11-70
Lease: Schank 15-15
County: Stark
State: North Dakota

Ordered by: Mr. Bill Walker

Customer's Order No.

Quantity	DESCRIPTION	Amount
3	400 BBl., 12' dia. x 20' high, welded steel tanks complete with 1/4" Type "A" cone bottoms, 3/16" shell and decks, extended neck cleanout boxes, two piece cleanout covers, thief valves and all std. openings @ 2,210.04 ea.	$ 6,630.12
36	Lineal feet 26" wide, painted walkway erected on above tanks @ 11.00 per foot	396.00
1	26" wide x 18' vertical rise stairway erected to above 400 BBl., 20' high welded tanks (painted)	250.00
1	5' dia. x 12' long, CONNOR, Model "HF" horizontal treater complete with 600,000 BTU firebox, 2" Kimray Oil & Water valves, 2" Cemco gas back pressure valve, Kimray low level safety shutdown assembly, 1 - 1" Fisher 630-R gas back pressure valve for fuel system, 2 - 1" Fisher 620 fuel gas regulators (1 for natural gas and 1 for propane control), 10-3/4" x 36" fuel gas scrubber with safety shut off valve, built in free water knockout, hay section with 2 manways but less hay, gas separating section, 5' wide x 6' long valve control house, all valves and controls installed and piped, treater and house all skid mounted and insulated with fiberglas and aluminum sheeting, all piping to edge of skids F. O. B. location	4,320.00
		11,596.12
	4% N. Dak. State Sales Tax	463.85
		12,059.97

803-51-1207

WTW

TERMS: Net % Cash Discount on Materials if Paid by 10th of Month Following Purchase. Net 30 days. Labor net.

Discount on this Invoice if Paid by _____ is $ _____. Past Due 8-10-70.

1% per month interest will be charged on all Past Due Accounts.

INVOICE

CONNOR SALES COMPANY, INC.

BOX 112 PHONE 701-572-9356
WILLISTON, NORTH DAKOTA 58801

TREATERS
TANKS
WALKWAYS
HEATERS
SEPARATORS
CONTROLS

RECEIVED
JUL 15 1970
CARDINAL

To: Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Invoice No. 120-706
Date: 6-11-70
Lease: Schank 15-15
County: Stark
State: North Dakota

Ordered by: Mr. Bill Walker

Customer's Order No.

Quantity	DESCRIPTION	Amount
1	Set (4 - 3" x 12" x 7') Matting Boards for Treater	18.48
3	3½" Dial Face Thermometers W/6" Stem, 0 to 250 degree F. @ 14.60 ea.	43.80
3	3/4" NPT Carbon Steel Thermometer Wells @ 11.68 ea.	35.04
3	3/4" NPT Carbon Steel Thermostat Wells for Heat Tape @ 11.84 ea.	35.52
		132.84
56	Hours Labor to Help connect tank battery and treater @ 5.00 per hour	280.00
3	Nights out for Crew (1 night for 3 men) @ 10.00 ea.	30.00
		442.84
	4% N. Dak. State Tax on 132.84	5.32
		448.16

803-51-1207

WFW

TERMS: Net % Cash Discount on Materials if Paid by 10th of Month Following Purchase. Net 30 days. Labor net.

Discount on this Invoice if Paid by _____ is $_____. Past Due 8-10-70.

1% per month interest will be charged on all Past Due Accounts.

CE FORM 260
REV. 5-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
WILLISTON, NORTH DAKOTA	GLENDIVE, MONT.	06 03 70	1513414	

CUSTOMER ORDER REFERENCE
(Purchase Order No., Ordered By, Etc.)

WALKER

CUSTOMER'S LOCATION CHARGE

SCHANK 15-11S

RECEIVED
JUN 23 1970
CARDINAL

ORDER ATTACHED TO INVOICE NO.

INVOICE DATE
06 18 70

SOLD TO:
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO
DICKENSON N DAK

SHIPPED VIA
COMMON CARRIER

197-50

00 493 9740

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)			UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY
609	FT	2.00 CONT WELD LINE PIPE TC UNIF 21 29 JTS 21FT UNIF LGHTS	WT	375	.5977	NET	364.00	3
378	FT	3.00 CONT WELD LINE PIPE TC UNIF 21 18 JTS 21 FT UNIF LGHTS	WT	770	1.2118	NET	458.06	3
21	FT	4.00 CONT WELD LINE PIPE TC UNIF 21 1-21 FT JT	WT	1100	1.8111	NET	38.03	3

803-51-1207

34.40 NORTH DAKOTA TAX

TAXES DETAIL | TOTAL → 34.40

DISCOUNT KEY
1 - NET
2 - 1%
3 - 2% 10 DAYS

IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING.

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE 17.89

INVOICE AMOUNT → 894.49

REMIT TO P O BOX 809 DALLAS, TEXAS 75221

876.60 ®

CE FORM 260
REV. 6-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	6 11 70	1498065	

RECEIVED
JUL 8 1970
CARDINAL

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO INVOICE NO.	INVOICE DATE
BILL WALKER	SCHANK 15-15		06 30 70

SOLD TO:	SHIPPED TO	SHIPPED VIA	
CARDINAL PETROLEUM COMPANY BOX 1077 BILLINGS MT 59103	DICKENSON, NORTH DAK.	COMPANY VEHICLE	477-20

00 493 9740

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY (See Below)
2	EA	1 X 1/2 IN STD BLK CI HEX BUSHING	.28	NET	.56	
2	EA	2 X 1 IN STD BLK CI HEX BUSHING	.49	NET	.98	
1	EA	1/2 X 12 IN STD BLK PIPE NIPPLE	.46	NET	.46	
2	EA	1 IN STD BLK MALL 90 DEG STREET ELL	.60	NET	1.20	
3	EA	3 IN STD BLK MALL 45 DEG ELL	5.07	NET	15.21	
1	EA	3 X 3 IN STD BLK PIPE NIPPLE	1.62	NET	1.62	
1	EA	1640 2 IN LUNK 150# SE IRON GATE VALVE	37.80	16	31.75	
1	EA	1/2 IN STD BLK MALL 90 DEG ELL	.15	NET	.15	
2	EA	3 X 4 IN STD BLK SMLS PIPE NIPPLE	2.86	NET	5.72	
1	EA	VALVE, CHECK, F WHEATLEY 2-3F300 SEMI-STEEL	22.85	NET	22.85	N
6	EA	1/2 X 2 IN STD BLK PIPE NIPPLE	.11	NET	.66	
1	EA	1/2 X 3 IN STD BLK PIPE NIPPLE	.13	NET	.13	
1	EA	1/2 X 4 IN STD BLK PIPE NIPPLE	.16	NET	.16	
6	EA	1 X 2 IN STD BLK PIPE NIPPLE	.22	NET	1.32	
3	EA	1 X 6 IN STD BLK PIPE NIPPLE	.38	NET	1.14	
12	EA	2 X 3 IN STD BLK PIPE NIPPLE	.48	NET	5.76	
7	EA	2 X 4 IN STD BLK SMLS PIPE NIPPLE	.96	NET	6.72	
6	EA	2 X 6 IN STD BLK PIPE NIPPLE	.78	NET	4.68	
6	EA	2 X 8 IN STD BLK PIPE NIPPLE	1.31	NET	7.86	
6	EA	2 X 10 IN STD BLK PIPE NIPPLE	1.52	NET	9.12	
8	EA	2 X 12 IN STD BLK SMLS PIPE NIPPLE	2.77	NET	22.16	

TAXES: DETAIL | TOTAL

DISCOUNT KEY:
N - NET 1 - 1%
O - 1/2% 3 - 2% 10 DAYS
IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING.

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE

INVOICE AMOUNT

REMIT TO P. O. BOX 809 DALLAS, TEXAS 75221

FORM 260
REV. 8-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY

DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	06 11 70	1498065	

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO INVOICE NO.	INVOICE DATE
BILL WALKER	SCHANK 15-15		06 30 70

SOLD TO:	SHIPPED TO	SHIPPED VIA	
CARDINAL PETROLEUM COMPANY	DICKENSON, NORTH DAK.	COMPANY VEHICLE	477-20

RECEIVED
JUL 8 1970
CARDINAL

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*SCHEDULE PLUS FACTOR)	AMOUNT	KEY (See Above)
12	EA	3 X 4 IN STD BLK SMLS PIPE NIPPLE	2.86	NET	34.32	
5	EA	3 X 6 IN STD BLK SMLS PIPE NIPPLE	3.67	NET	18.35	
5	EA	3 X 12 IN STD BLK PIPE NIPPLE	3.60	NET	18.00	
3	EA	4 X 4 IN STD BLK PIPE NIPPLE	2.46	NET	7.38	
3	EA	4 X 6 IN STD BLK PIPE NIPPLE	3.07	NET	9.21	
3	EA	4 X 8 IN STD BLK PIPE NIPPLE	3.62	NET	10.86	
2	EA	1/2 IN STD BLK MALL 90 DEG ELL	.15	NET	.30	
1	EA	1 IN STD BLK MALL 90 DEG ELL	.44	NET	.44	
16	EA	2 IN STD BLK MALL 90 DEG ELL	1.36	NET	21.76	
9	EA	3 IN STD BLK MALL 90 DEG ELL	4.56	NET	41.04	
3	EA	4 IN STD BLK MALL 45 DEG ELL	8.17	NET	24.51	
12	EA	2 IN STD BLK MALL TEE	1.97	NET	23.64	
7	EA	3 IN STD BLK MALL TEE	5.07	NET	35.49	
6	EA	2 IN 250# BLACK MALL GR JOINT UNION	3.04	NET	18.24	
3	EA	UNION, LIP, JEFFERSON 3 X-2 EXCEL 250# BLK Page 3	12.00	17 25	22.41	
9	EA	3 X 2 STD SWAGE NIPPLE	4.05 *	7.50	39.18	N
3	EA	4 X 3 STD SWAGE NIPPLE	5.40 *	7.50	17.42	N
4	EA	4266-2011-04 PLUG, STD BULL 2 IN 11-1/2V REG	2.75 *	7.50	11.83	
2	EA	3 IN STD BULL PLUG	4.75 *	7.50	10.21	N
6	EA	3 IN STD BLK CI SQ HD CORED PLUG	.96	NET	5.76	
6	EA	4 IN STD BLK CI SQ HD CORED PLUG	1.71	NET	10.26	

TAXES: DETAIL | TOTAL

DISCOUNT KEY: 1 - 1% NET 2 - 2% 10 DAYS

IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING

PROMPT PAYMENT DISCOUNT IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE

INVOICE AMOUNT

REMIT TO: P O BOX 909 DALLAS, TEXAS 75221

CE FORM 260
REV. 6-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO
GLENDIVE, MONT.	GLENDIVE, MONT.	06 11 70	1498065	

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO INVOICE NO.	INVOICE DATE
BILL WALKER	SCHANK 15-15		06 30 70

SOLD TO:	SHIPPED TO	SHIPPED VIA	
CARDINAL PETROLEUM COMPANY	DICKENSON, NORTH DAK.	COMPANY VEHICLE	477-20

RECEIVED
JUL 6 1970
CARDINAL

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT ("DENOTES PLUS FACTOR)	AMOUNT	KEY (See Below)
3	EA	VALVE, CHECK, F WHEATLEY 3-3F300 SEMI-STEEL	38.90	NET	116.70	N
5	EA	1640 2 IN LUNK 150# SE IRON GATE VALVE	37.80	16	158.76	
7	EA	VALVE, PLUG, ROCKWELL 142 2 IN 175# WOG	25.50	31	123.17	N
3	EA	VALVE, PLUG, ROCKWELL 142 3 IN 175# WOG	43.40	31	89.84	N
3	EA	VALVE, PLUG, ROCKWELL 142 4 IN 175# WOG	59.90	31	123.99	N
6	EA	3/4 IN STD BLK MERCHANT PIPE COUPLING	.1755*	3	1.08	N
3	EA	1 IN STD BLK MERCHANT PIPE COUPLING	.2575*	3	.80	N
2	EA	2125 1/2 IN LUNK 125# SE BRZ GATE VALVE	8.40	16	14.11	
3	EA	2125 1 IN LUNK 125# SE BRZ GATE VALVE	12.60	16	31.75	
3	EA	45906 COMB LKG HOOD & WRENCH F/2 ROCKWELL PLUG VALVE	4.17	31	8.63	N
3	EA	45928 COMB LKG HOOD & WRENCH F/3 ROCKWELL PLUG VALVE	6.51	31	13.48	N
3	EA	45926 CLIP F/3 IN ROCKWELL PLUG VALVE	.37	31	.77	N
3	EA	57832 2 LKG CLIP F/ROCKWELL PERMATURN VLV	.44	31	.91	N
1	EA	VALVE, CHECK, F WHEATLEY 2-3F600 SEMI-STEEL	42.45	NET	42.45	N
2	EA	1036 2 IN TEXSTEAM 1000# DI SE PLUG VALVE WT 1980	55.65	NET	111.30	N
2	EA	320609 2 IN WECO 100 WING UNION	8.70	NET	17.40	
3	EA	320611 3 IN WECO 100 WING UNION	20.00	NET	60.00	
4	EA	3 X 6 IN STD BLK SMLS PIPE NIPPLE	3.67	NET	14.68	
4	EA	3 X 4 IN STD BLK SMLS PIPE NIPPLE	2.86	NET	11.44	

TAXES: DETAIL | TOTAL

DISCOUNT KEY:
N - NET 1 - 1%
O - 1/2% 2 - 2% 10 DAYS

IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING.

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE

INVOICE AMOUNT

REMIT TO P O. BOX 809 DALLAS. TEXAS 75221

Page

CE FORM 280
REV. 6-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY

DALLAS, TEXAS

ORIGINAL INVOICE

Page 4 of 5

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	06 11 70	1498065	

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO INVOICE NO.	INVOICE DATE
BILL WALKER	SCHANK 15-15		06 30 70

SOLD TO:	SHIPPED TO	SHIPPED VIA	
CARDINAL PETROLEUM COMPANY	DICKENSON, NORTH DAK.	COMPANY VEHICLE	477-20

RECEIVED
JUL 8 1970

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY (See Below)
2	EA	3 IN STD BLK MALL TEE	5.07	NET	10.14	
1	EA	1 X 4 IN STD BLK PIPE NIPPLE	.29	NET	.29	
1	EA	1 X 2 IN STD BLK PIPE NIPPLE	.22	NET	.22	
1	EA	1 IN STD BLK MALL 90 DEG ELL	.44	NET	.44	
2	EA	1036 3 IN TEXSTEAM 1000# DI SE PLUG VALVE WT. 5300	90.15	NET	180.30	N
2	EA	2 X 4 IN STD BLK SMLS PIPE NIPPLE	.96	NET	1.92	
2	EA	2 X 6 IN STD BLK PIPE NIPPLE	.78	NET	1.56	
2	EA	2 X 8 IN STD BLK PIPE NIPPLE	1.31	NET	2.62	
2	EA	2 X 10 IN STD BLK PIPE NIPPLE	1.52	NET	3.04	
2	EA	3 X 10 IN STD BLK PIPE NIPPLE	3.12	NET	6.24	
2	EA	3 X 12 IN STD BLK PIPE NIPPLE	3.60	NET	7.20	
1	EA	3 X 2 STD SWAGE NIPPLE	4.05	* 7.50	4.35	N
1	EA	2-1/2 8RD EUE J-55 API TUB COUPLING	4.8719	NET	4.87	N
1	EA	4236-1220-12 NIPPLE CUP	22.65	NET	22.65	
3	EA	3IN PART #A EVERTITE FITTING	7.85	NET	23.55	N
1	EA	1/2IN FIG 1940 MARSH MFG NEEDLE VALVE	15.38	NET	15.38	N
1	EA	1IN D-144 GATE VALVE 800#	31.60	16	26.54	
2	EA	3IN 10-C-16 WHEATLEY CHECK VALVE 600WP	77.40	NET	154.80	
1	EA	3IN XH SMLS BULL PLUG TAPPED 1/2IN	11.92	NET	11.92	
1	EA	3-1/2IN FACE C-1500 1/4IN BTP MARSH GAUGE	9.08	NET	9.08	
3	EA	56698 ROCKWELL HOOD & HANDLE W/LOCKING CLIP	8.95	31	18.53	N

TAXES — DETAIL | TOTAL

DISCOUNT KEY: N - NET 1 - 1% 0 - 10 DAYS 2 - 2% 10 DAYS

IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20th FOLLOWING

PROMPT PAYMENT DISCOUNT IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE

INVOICE AMOUNT

REMIT TO: P. O. BOX 809 DALLAS, TEXAS 75221

CE FORM 260
REV. 6-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	06 11 70	1498065	

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)	CUSTOMER'S LOCATION CHARGE	ORDER ATTACHED TO INVOICE NO.	INVOICE DATE
BILL WALKER	SCHANK 15-15		06 30 70

SOLD TO:	SHIPPED TO	SHIPPED VIA	
CARDINAL PETROLEUM COMPANY	DICKENSON, NORTH DAK.	COMPANY VEHICLE	477-20

RECEIVED
JUL 6 1970
CARDINAL

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY (See Below)
2	EA	2 X 1 IN STD BLK CI HEX BUSHING	.49	NET	.98	
2	EA	4IN #60 VICTAULIC CAP	2.55	NET	5.10	1
1	EA	3 IN STD BULL PLUG	4.75	* 7.50	5.11	N
1	EA	1/2IN OIC-134 BRASS CHECK VALVE	7.80	16	6.55	
2	EA	2 X 2-1/2 IN STD BLK CI HEX BUSHING	.49	NET	.98	
3	EA	4IN SER. 2200 HALE O-RING BUTTERFLY VALVE	28.00	NET	84.00	
1	EA	899-20-1008 1 GALLON CAN BAKER THD. SEALING COMPOUND	17.40	NET	17.40	N
200	MI	COMPLIMENTARY DELIVERY CHARGE	40.00	NET	N/C	

2-3-51-1207

		TAXES	
93.51 NORTH DAKOTA TAX		DETAIL	TOTAL 93.51
DISCOUNT KEY: N - NET 1 - 1% 2 - 2% 10 DAYS 3 - 2% 10 DAYS IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING	PROMPT PAYMENT DISCOUNT IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE	23.53	INVOICE AMOUNT 2,171.35

REMIT TO P. O. BOX 609 DALLAS, TEXAS 75221

2147.82

FORM 250
V. 6-69

CONTINENTAL-EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
WILLISTON, NORTH DAKOTA	GLENDIVE, MONT.	06 03 70	1513422	

CUSTOMER ORDER REFERENCE
(Purchase Order No., Ordered By, Etc.)

WALKER

CUSTOMER'S LOCATION CHARGE

SCHANK 15-15

ORDER ATTACHED TO INVOICE NO.

INVOICE DATE

06 18 70

SOLD TO:
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO
SAME AT
CIKENSON N DAK

RECEIVED
JUN 23 1970
CARDINAL

SHIPPED VIA
COMMON CARRIER

198-50

00 493 9740

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT ("DENOTES PLUS FACTOR)	AMOUNT	KE (See Below)
2	EA	8 X 10 USED WOODEN SLIES	15.00	NET	30.00	N

803-51-1207

WKW

1.20 NORTH DAKOTA TAX

TAXES: DETAIL | TOTAL → 1.20

COUNT KEY:
NET 1 - 1%
3 - 2% 10 DAYS

IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE .00

INVOICE AMOUNT → 31.20

REMIT TO P O BOX 909 DALLAS, TEXAS 75221

Koustabout Service Company

BOX 243
TIOGA, NORTH DAKOTA 58852

RECEIVED
JUN 19 1970
CARDINAL

SOLD TO
Cardinal Petroleum Corp.
Dickinson, N.Dak.

LEASE
15-15 Sohank

Date Ordered	Order No.	Date Shipped	Terms	Invoice Date	Invoice No.
			Net 30	6-18-70	7763

TO INSULATE TANK BATTERY:			
3- 400 bbl. tanks with 3"		@780.00	2340.00
57 lineal feet 2x1 S. O. P. C. with childers		@1.75	99.75
150 lineal feet 3x1 S. O. P. C.	"	@2.10	315.00
37 lineal feet 4x1 S. O. P. C.	"	@2.50	92.50
5 lineal feet 5x1 S. O. P. C.	"	@2.75	13.75
271 lineal feet 6x1 S. O. P. C.	"	@3.10	840.10
3 lineal feet 8x1 S. O. P. C.	"	@3.90	11.70
1 R/C pump		@7.50	7.50
7- 2" alum. ell jacks with covering	(90)	@3.50	24.50
1- 2" alum. ell	" " (45)	@2.63	2.63
1- 3" alum ell	" " (90)	@4.20	4.20
3- 4" alum. ell	" " (45)	@3.75	11.25
15- 2" vavles		@5.25	78.75
6- 3" valves		@6.30	37.80
6- 4" valves		@7.50	45.00
		TOTAL	$3924.43
Less 5%			196.22
		TOTAL INVOICE	$3728.21

803-51-1207

WFW

CF FORM 260
REV 6-69

CONTINENTAL - EMSCO COMPANY

A DIVISION OF YOUNGSTOWN SHEET AND TUBE COMPANY
DALLAS, TEXAS

ORIGINAL INVOICE

STORE LOCATION:	SELLING LOCATION:	DATE SHIPPED	INVOICE NO.	PART OF NO.
GLENDIVE, MONT.	GLENDIVE, MONT.	06 16 70	1498083	

RECEIVED
JUL 13 1970
CARDINAL

CUSTOMER ORDER REFERENCE (Purchase Order No., Ordered By, Etc.)
STAN REETZ

CUSTOMER'S LOCATION CHARGE
SCHANK 15-15

ORDER ATTACHED TO
INVOICE NO.

INVOICE DATE
07 07 70

SOLD TO:
CARDINAL PETROLEUM COMPANY
BOX 1077
BILLINGS MT 59103

SHIPPED TO
SAFE-DICKENSON NORTH DAKOTA

SHIPPED VIA
COMPANY VEHICLE

504-20

00 493 9740

D-U-N-S 00 493 9740

QUANTITY	UNIT	DESCRIPTION (THE MATERIAL LISTED HEREON IS SUBJECT TO THE TERMS AND CONDITIONS LISTED ON REVERSE SIDE)	UNIT PRICE	DISCOUNT (*DENOTES PLUS FACTOR)	AMOUNT	KEY (See Below)
1	EA	TEXSTEAM 1203-S BEAN CHEMICAL PUMP 3/8 IN PLUNGER	105.95	NET	105.95	N
42	FT	1/8 IN BLK PIPE		NET	6.80	N
1	EA	48F 3/8 X 3/8 IN COPPER TUBE ADAPTER		NET	.93	N
1	EA	49F 3/8 IN X 1/4 IN DITTO		NET	.98	N
2	EA	41F-3/8 IN COPPER TUBE NUTS .		NET	1.86	N
15	FT	3/8 IN COPPER TUBING		NET	5.60	N
200	MI	COMPLIMENTARY DELIVERY CHARGE	40.00	NET	N/C	

803-571-1207

TAXES		
DETAIL	TOTAL	
* NORTH DAKOTA TAX		4.35

DISCOUNT KEY:
N - NET 1 - 1%
D - 1% 3 - 2% 10 DAYS

IF THE SPACE IN KEY COLUMN IS BLANK, TERMS ARE 2% 20TH FOLLOWING.

PROMPT PAYMENT DISCOUNT
IF PAYMENT IS MADE IN ACCORDANCE WITH TERMS ON REVERSE SIDE

INVOICE AMOUNT 127.--

REMIT TO: P O BOX 609 DALLAS, TEXAS 75221

2

SUHR TRANSPORT

PO BOX 146
GLENDIVE, MONTANA
59330

PO BOX 1727
GREAT FALLS, MONTANA
59401

RECEIVED
JUL 1 1970
CARDINAL

DATE June 29, 1970

SHOWN BELOW IS A COPY OF
THE FIELD WORK ORDER 00

AMOUNT DUE IS $ 412

PLEASE PAY THIS INVOICE
NO STATEMENT FURNISHED

Cordinal Petroleum Co
Box 2~~122~~ 2564
Billings, Montana 59101

FCC REGULATIONS REQUIRE PAYMENT WITHIN 7 DAYS

WORK ORDER

No A 4557

To: SUHR TRANSPORT
Box 1727
Great Falls, Montana

Date 6-11-70
Order No.
Locations

We authorize you to bill us for the following:

To location No. of Dickinson N.D. oct jumping unit. Had To move some of rig #10 to B.P. Cardinal could build road. Unit 555 haul dozer standing to location so walking beam could be set.

Class	Empty Wt.	Start	A.M., P.M.	Finish	A.M., P.M.
Truck & Driver No. 500 Clayton		11 Hr. @ $ 23.00	per hr. $	253.00	
Helper 555 Beard		9 Hr. @ 17.00	per hr.	153.00	
Driver Additional Hrs.		Hr. @	per hr.		
Loaded Miles		Lbs. @	per cwt.		
Speedometer Start	2 N.D. permits @ 3.00			6.00	
Speedometer Finish					
Total Miles, Mont., N.D., S.D., Wyo.					
Highway Miles			Total Cost	412.00	

FIRM NAME Cardinal Petroleum

Billing Address Billings, Mont.

Signed by
Authorized Representative

3901-9 256.00
3120-9 156.00

ION QUAD, 10-69 BURRS TRIBUNE

Please Remit To: Suhr Transport
Box 1727
Great Falls, Montana 59401

1½% Finance Charge (18% per year) will be charged each month to balances 60 days delinquent.

FLINT Engineering & Construction Co.

324 PETROLEUM BUILDING — BILLINGS, MONTANA 59101

RECEIVED JUL 1 1970 CARDINAL

SOLD TO . Cardinal Petroleum Com pany
. P. O. Box 1077
. Billings, Montana 59101
.
DELIVERED AT . Glendive, Montana
DELIVERED TO . Schank 15-15

INVOICE No. . 6361
JOB No. . H-7-6 N.D.
ORDER No. .
INVOICE DATE . 6-30-70
DATE STARTED . 6-15-70
DATE COMPLETED . 6-18-70

Furnish foreman, laborer, tools and transportation necessary to perform the following described work:

#42599 6-15-70	Install shieve and hub, align motor and belts and install belt guard. Hookup flow-line to treater, put well on production and adjusted treater for operation.				
	Foreman	17 hrs.	@ 4.90	83.30	
	Laborer	17 hrs.	4.10	69.70	
	1 Ton Winch Truck	17 hrs.	4.50	76.50	
	Subsistence 2 men 1 da. ea.		12.50	25.00	254.50
#42600 6-16-70	Balance unit, shut unit down and tighten all bolts, install guards around unit. Fence location from cattle guard to main road.				
	Foreman	16 hrs.	4.90	78.40	
	Laborer	16 hrs.	4.10	65.60	
	1 Ton Winch Truck	16 hrs.	4.50	72.00	
	Subsistence 2 men 1 da. ea.		12.50	25.00	241.00
#43717 6-17-70	Tighten bolts on manhole plate on stock tank.				
	Foreman	1 hr.	4.90	4.90	
	Laborer	1 hr.	4.10	4.10	
	1 Ton Winch Truck	1 hr.	4.50	4.50	13.50
#43719 6-18-70	Spread scoria around treater, tanks and pumping unit. Put up fence along flow line and checked unit for balance.				
	Foreman	11 hrs.	4.90	53.90	
	Laborer X	11 hrs.	4.10	45.10	
	1 Ton Winch Truck	11 hrs.	4.50	49.50	
	Tractor w/Operator plus handling charge			145.20	293.70

Total Invoice Amount $ 802.70

803-51-1207

WSW

PLEASE PAY FROM THIS INVOICE. TERMS NET. STATEMENTS MAILED ONLY UPON REQUEST.

FLINT F-7

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, INC.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

RECEIVED
JUL 20 1970
CARDINAL

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 7/17/70
INVOICE NO. G20379
PUR. ORD. NO.

Schank #15-15

6/9/70	Operator-Backslope Rig Grade and fill in around pump unit			
		5 hrs.	@ 4.75 per hr.	$ 23.75
	TS14 Euclid Scraper	5 hrs.	@25.00 per hr.	125.00
6/11/70	Operator-Travel Belfield to location, Help Set Pump Unit, Blade Rig Grade, Travel to Belfield			
		6½ hrs.	@ 4.75 per hr.	30.88
	Subsistance			10.00
	#11 Pickup	1½ hrs.	@ 3.50 per hr.	5.25
	#32 12 Cat Motor Patrol	3½ hrs.	@ 9.00 per hr.	31.50
6/11/70	Operator-Travel Motor Patrol from Belfield to location, load Cattle Guard, Help move to location and unload			
		3½ hrs.	@ 4.75 per hr.	16.63
	#32 12 Cat Motor Patrol	1½ hrs.	@ 9.00 per hr.	13.50
	#3 3/8 Yard Backhoe	½ hrs.	@ 9.00 per hr.	4.50
6/11/70	#98 Truck & 3 Axle lowbed-Load Cattle Guard, Haul from Belfield to location, Unload, Return to Belfield			
		2½ hrs.	@16.50 per hr.	41.25
				$502.26

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, INC.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

RECEIVED
JUL 20 1970
CARDINAL

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana

DATE 7/17/70
INVOICE NO. G 20380
PUR. ORD. NO.

Schank #15-15

6/11/70	1- 20' X 8' Cattle Guard Complete			$ 365.00
	North Dakota Sales Tax 4% of 365.00			15.40
6/16/70	178 Cubic Yards of Crushed Scoria			
			@ 2.81 per yd.	500.18
	North Dakota Sales Tax 4% of 500.18			20.01
6/17/70	276 Cubic Yards of Crushed Scoria		@ 2.81 per yd.	775.56
	North Dakota Sales Tax 4% of 775.56			31.02
				$1727.17

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

RECEIVED
JUL 15 1970
CARDINAL

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 7/14/70
INVOICE NO. G 20327
PUR. ORD. NO.

Schank #15-15

6/15/70	Operator-Travel Belfield to location, dig out and relocate Culverts, Travel to Belfield	7½ hrs.	@ 4.75 per hr.	$ 35.63
	#17 D-7 Cat & Dozer	6½ hrs.	@12.00 per hr.	78.00
6/15/70	Laborer-Help dig out and relocate culverts, Travel to Belfield	5 hrs.	@ 4.75 per hr.	23.75
	#3 Pickup	5 hrs.	@ 3.50 per hr.	17.50
6/15/70	Operator-Travel Belfield to location, Haul fill around pump Unit, cut drainage, help dig out culvert and relocate, cover Culvert, Travel to Belfield	8 hrs.	@ 4.75 per hr.	38.00
	Subsistance			10.00
	#1 Pickup	1 hr.	@ 3.50 per hr.	3.50
	#66 TS14 Euclid Scraper	6 hrs.	@24.00 per hr.	144.00
6/16/70	Operator-Spread Scoria, Travel to Belfield	4 hrs.	@ 4.75 per hr.	19.00
	Subsistance			10.00
	#62 12 Cat Motor Patrol	3½ hrs.	@ 9.00 per hr.	31.50
	#4 Pickup	½ hr.	@ 3.50 per hr.	1.75
				$412.63

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

RECEIVED
JUL 16 1970
CARDINAL

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 7/14/70
INVOICE NO. G 20329
PUR. ORD. NO.

Schank #15-15

6/16/70	Operator-Build up around pump unit, Install Cattle Guard, spread top soil	5 hrs.	@ 4.75 per hr.	$ 23.75
	#17 D-7 Cat & Dozer	5 hrs.	@12.00 per hr.	60.00
6/17/70	Operator-Travel Belfield to location, Blade Scoria	6½ hrs.	@ 4.75 per hr.	30.88
	#2 Pickup	½ hr.	@ 3.50 per hr.	1.75
	#65 12 Cat Motor Patrol	6 hrs.	@ 9.00 per hr.	54.00
6/17/70	236 Cubic Yards of Crushed Scoria		@ 2.81 per yd.	663.16
	North Dakota Sales Tax 4% of 663.16			26.53
6/18/70	Operator-Blade Road and Truck turn around, Travel to Belfield	4½ hrs.	@ 4.75 per hr.	21.38
	#65 12 Cat Motor Patrol	4 hrs.	@ 9.00 per hr.	36.00
	#4 Pickup	½ hr.	@ 3.50 per hr.	1.75
				$919.25

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, INC.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Pipeline Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

RECEIVED
JUL 16 1970
CARDINAL

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 7/14/70
INVOICE NO. G 20330
PUR. ORD. NO.

Schank #15-15

6/18/70	Operator-Build Access Road and Truck Turn around, Travel to Belfield	11 hrs.	@ 4.75 per hr.	$ 52.25
	Subsistance			10.00
	#66 TS14 Euclid Scraper	10½ hrs.	@24.00 per hr.	252.00
	#1 Pickup	½ hr .	@ 3.50 per hr.	1.75
6/18/70	28 Cubic Yards of Crushed Scoria		@ 2.81 per yd.	78.68
	North Dakota Sales Tax 4% of 78.68			3.15
6/19/70	Operator-Travel Belfield to location, Spread Scoria	9 hrs.	@ 4.75 per hr.	42.75
	#2 Pickup	½ hr .	@ 3.50 per hr.	1.75
	#65 12 Cat Motor Patrol	8½ hrs.	@ 9.00 per hr.	76.50
6/19/70	Operator-Travel Belfield to location, Build Access Road	1½ hrs.	@ 4.75 per hr.	7.13
	#1 Pickup	½ hr .	@ 3.50 per hr.	1.75
	#66 TS14 Euclid Scraper	½ hr .	@24.00 per hr.	12.00
6/19/70	406 Cubic Yards of Crushed Scoria		@ 2.81 per yd.	1140.86
	North Dakota Sales Tax 4% of 1140.86			45.63
				$1726.20

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

L. P. ANDERSON CONTRACTOR, INC.

By: Danny Hass

Driller or Foreman

SIGNED:

DAILY TOTAL $1316.60

MOORE BUSINESS FORMS, INC.

.0 0 T

3 0 [illegible] 6
1,7 [illegible] 7.1 7
4 1 2.6 3
2 1 9.2 0
1,7 2 6.2 0
5,0 8 7.4 6 T

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 6/30/70
INVOICE NO. G 20224
PUR. ORD. NO.

Schank #15-15

6/7/70	7.4 Ton of Fill Sand	@ 1.93 per ton		$ 14.28
	North Dakota Sales Tax	4% of 14.28		.57
6/10/70	16 Cubic Yards of Scoria	@ 2.81 per yd.		44.96
	North Dakota Sales Tax	4% of 44.96		1.80
6/10/70	24.2 Ton of Fill Sand	@ 1.93 per ton		46.71
	North Dakota Sales Tax	4% of 46.71		1.87
6/8/70	12.1 Ton of Fill Sand	@ 1.93 per ton		23.35
	North Dakota Sales Tax	4% of 23.35		.93
				$134.47

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

Thank You OK

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59102

DATE 6/12/70
INVOICE NO. G 20103
PUR. ORD. NO.

Schank #15-15

5/19/70	Operator-Build Road around West End of Rig Grade			
		1 hr.	@ 4.75 per hr.	$ 4.75
	#69 C-6 Euclid & Dozer	1 hr.	@18.50 per hr.	18.50
				$23.25

GENERAL OFFICES
P. O. BOX 190

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana 59103

DATE 6/30/70
INVOICE NO. G 20226
PUR. ORD. NO.

Schenk #15-15

6/2/70	Laborer-Travel Backhoe from Oilfield to location, help dig and install anchors	4 hrs.	@ 4.75 per hr.	$ 19.00
	#3 3/8 Yard Backhoe	2 hrs.	@ 9.00 per hr.	18.00
6/3/70	Operator-Build Tank Battery Grade	2 hrs.	@ 4.75 per hr.	9.50
	#62 12 Cat Motor Patrol	2 hrs.	@ 9.00 per hr.	18.00
6/4/70	Operator-Build Salt Water Pit, Travel to Oilfield	5 hrs.	@ 4.75 per hr.	23.75
	#69 C-6 Euclid & Dozer	4½ hrs.	@18.50 per hr.	83.25
	#11 Pickup	½ hr.	@ 3.50 per hr.	1.75
				$173.25

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

RIG # .....

INVOICE

REITER WELDING & IRON WORKS

Lew Reiter, Prop.

JUL 2 1970
CARDINAL

No. 2004

PHONE 225-8316
DICKINSON, N. D. 58601

Purchaser Cardinal Pete
Box 2564
Billings Mont Zip 59103

Your P. O. No. ..... Date 6/30 197 0

Well Schenk #1

920 LBS. OF IRON	16	20
LBS. OF BOLTS		
18' pipe	28	80
LABOR — WELDING AND CUTTING to make well anchors		
803-51-1207		
4½ Hours, including Travel Time @ 9.00	40	50
SUB-TOTAL		
TAX	1	80
TOTAL	87	30

CREDIT TERMS—(NO DISCOUNTS) All charge accounts are due 15th of following month. All invoices not paid will be charged 1% per month which is an annual percentage rate of 12%.

Signed WFW

N. D. HEROLD 800 3-70

INVOICE

RIG # .....

REITER WELDING & IRON WORKS

Lew Reiter, Prop.

JUL 2 1970
CARDINAL

No. 2005

PHONE 225-8316
DICKINSON, N. D. 58601

Purchaser Cardinal Pete Corp
Box 2564
Billings Mont Zip 59103

Your P. O. No. ..... Date 6/12 197 .....

Well Schenk #1

LBS. OF IRON		
LBS. OF BOLTS For Hold Down	2	00
LABOR — WELDING AND CUTTING June 30 Cut off Csg - Heat bending joint to remove (5½)		
Work on adapter		
6/5 - Work on Test Batt 5½		
9 Work on Flow line 3½		
10 - Make Ell - Make two Hold down bolts for Anchor 1½		
803-51-1207 15½ Hours, including Travel Time @	139	50
SUB-TOTAL		
TAX		08
TOTAL	141	58

CREDIT TERMS—(NO DISCOUNTS) All charge accounts are due 15th of following month. All invoices not paid will be charged 1% per month which is an annual percentage rate of 12%.

Signed WFW

N. D. HEROLD 800 3-70

LIVE BETTER ELECTRICALLY

West Plains Electric Cooperative, Inc.

Box 1038 Dickinson, North Dakota 58601

RECEIVED JUL 1 1970 GAS DEPT.

INVOICE NO. 24532

SOLD TO
Cardinal Petro. Co.
Box 1077
Billings, Montana 59101

INVOICE DATE
July 13, 1970

SHIPPED TO

Acct. # 54-15-01-00 Schank # 15-15

OUR ORDER NO.	YOUR ORDER NO.	SALESMAN	TERMS	SHIPPED VIA	FRO. OR COLL.

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	Materials as per attached W.O. 4456B	142.14	
	Labor Charge	52.46	
			194.60
	A/R June 1970 143.1 - 194.60 107.2 - 52.46 154 - 135.42 163 - 6.72		

PRINTED BY GRAYARC CO., INC., BROOKLYN, N. Y. 11232

No. 4242

TRIANGLE ELECTRIC

Rig Lighting & Equipment

Highway 2 North · Phone 572 6783
WILLISTON, NO. DAKOTA
ELECTRICAL CONTRACTOR

Oil Field Service & Supplies

RECEIVED
AUG 3 1970
CARDINAL

Page 2

Cardinal Drilling and Producing
Box 1077
Billings, Montana 59101

INVOICE NO. 2305
INVOICE DATE July 28, 1970
CUST. ORDER NO.
RIG NO.
LOCATION Shenk 15-15

TERMS

QUAN.	ITEM NO.	DESCRIPTION	UNIT PRICE	NET
305'		#12 THHN	.10	30.50
2		3/4" UNF	2.05	4.10
2		3/4 x close nipple	.24	.48
3		¾ x 3/4" RE	.33	.99
1		¾" LB		1.47
1		¾" weather proof bushing		1.00*
7'		2" seal tite	2.60	18.20
2		#4 kerneys	.93	1.86
1		#4 lug	.48	.48
153'		#4 bare copper	.33	50.49
1		3/4" meyers hub		1.95
1		Quantity splicing, connecting and unlisted material		15.00
				1707.54
		Less 10% discount on material in NPS		78.21
		Material		1629.33
		Tax		65.17
		Wiring certificate		28.56
6-15-70		Two journeyman electrical service crew with one ton truck fully equipped: 9 hrs. @ 21.00 p/hr.		189.00
		Overtime: 1 hrs. @ 8.50 p/hr.		8.50
6-16-70		Two journeyman electrical service crew with one ton truck fully equipped: 1 hr. @ 21.00 p/hr.		21.00
		Overtime: 1 hr. @ 8.50 p/hr.		8.50
		TOTAL		1950.06

803-51-1207

* denotes material not on discount schedule.

W & W

SALESMAN REC. BY

No. 4235

TRIANGLE ELECTRIC

Rig Lighting & Equipment

Highway 2 North · Phone 572-6783
WILLISTON, NO. DAKOTA
ELECTRICAL CONTRACTOR

Oil Field Service & Supplies

RECEIVED
AUG 3 1970

Cardinal Drilling and Production
Box 1077
Billings, Montana 59101

INVOICE NO. 2305
INVOICE DATE July 28, 1970
CUST. ORDER NO.
RIG NO.
LOCATION Shank 15-15

TERMS

QUAN.	ITEM NO.	DESCRIPTION	UNIT PRICE	NET
		Hook up pumping unit.		
2		6' 4x4's	3.60	7.20 *
1		10' 5" pont		6.20 *
3		1 ϕ lightning arrestors	12.95	38.85 *
4		#2/0 copper to alum. kerneys	3.00	12.00
1		1½" weatherhead		3.70
2		2" ground clamp	1.50	3.00
1		1" ground clamp		.74
1		8' ground clamp rod		7.40
1		5/8" ground clamp		.92
2		16" line bolts	.69	1.38
2		10" line bolts	.49	.98
2		½ x 6" bolts	.24	.48
10		line washers	.12	1.20
2		2" factory L	3.24	6.48
1		2" meyers hub		4.00
1		2" x 3" RE		3.00
1		2" x 2½" RE		2.50
1		3/4" OMT		5.80
1		VS2C murphy beam sw.		38.50 *
1		AB 800XT% sw. box w/H2A sw.		30.60 *
1		3 3/8 TYPE F hub		32.00 *
1		13" 8 groove shive		134.40 *
1		247 Steel City beam clamp		.42
1		Paragon time delay		58.90 *
2		700C200 relay	23.40	46.80 *
1		.100 control transformer		14.70
4		150 amp 600 volt fustrons	10.24	40.96
3		45° 2" seal tite conn.	13.00	39.00
1		st 2" seal tite conn.		9.80
1		AB Size 4 panel 1232XEMB277	5	532.00 *
90'		3/4" rigid	.35	31.50
100'		2" rigid	1.03	103.00
45'		¾" rigid	.27	12.15
354'		#1/0 THW	.99	350.46

Continued on page 2

SALESMAN REC. BY

[illegible] WILLISTON, NORTH DAKOTA 58801 [illegible]

[illegible]

Electrical Contractors

Rig Lighting & Equipment

Highway 2 North · Phone 572-6783
WILLISTON, NO. DAKOTA
ELECTRIC MOTORS ALL SIZES

Oil Field Service & Supplies

RECEIVED
AUG 3 1970
DIVISION

Cardinal Drilling and Producing
Box 1077
Billings, Montana 59101

INVOICE NO. 2302

INVOICE DATE July 26, 1970

CUST. ORDER NO.

RIG NO.

TERMS

LOCATION Shank 15-15

QUAN.	ITEM NO.	DESCRIPTION	UNIT PRICE	NET
		Overtime: 2½ hrs. @ 8.50 p/hr.		21.25
6-12-70		Two journeyman electrical service crew with one ton truck fully equipped: 2 hrs. @ 21.00 p/hr.		42.00
7-1-70		Two journeyman electrical service crew with one ton truck fully equipped: 10 hrs. @ 21.00 p/hr.		210.00
		Overtime: 2 hrs. @ 8.50 p/hr.		17.00
		TOTAL		7026.33
		803-51-1707		

SALESMAN

REC. BY

No. 4233

TRIANGLE ELECTRIC

Rig Lighting & Equipment

Highway 2 North - Phone 572-6783
WILLISTON, NO. DAKOTA
ELECTRICAL CONTRACTOR

Oil Field Service & Supplies

Cardinal Drilling and Producing
Box 1077
Billings, Montana 59101

INVOICE NO. 2305
INVOICE DATE July 28, 1970
CUST. ORDER NO.
RIG NO.
LOCATION Shenk 15-15

TERMS

QUAN.	ITEM NO.	DESCRIPTION	UNIT PRICE	NET
670'		670' 3/4" rigid	.35	234.50
1247'		#10 THHN	.16	199.52
1155'		#12 THHN	.10	115.50
13		3/4 x close nipple	.24	3.12
8		3/4 x 2" nipple	.27	2.16
17		3/4 x 3" nipple	.32	5.44
2		3/4 x 1" nipple	.47	.94
4		3/4 x 4" nipple	.37	1.48
10		¾ x 3" nipple	.27	2.70
20		20 amp plug fusen	.13	2.60
1		Roper recycle pump w/belts, pulleys, stand, 2 h.p. 3 ϕ totally enclosed motor		498.00 *
1		Quantity splicing, connecting and unlisted material		27.50
				5549.11
		Less 10% discount on material in NPS		187.85
		Material		5361.26
		Tax		214.45
		Wiring certificate		1.12
6-4-70		Two journeyman electrical service crew with one ton truck fully equipped: 5½ hrs. @ 21.00 p/hr.		115.50
		One journeyman electrical service crew with one ton truck fully equipped: 3½ hrs. @ 12.50 p/hr.		43.75
		Overtime: 1 man , 1hr. @ 4.25 p/hr.		4.25
6-8-70		Two journeyman electrical service crew with one ton truck fully equipped: 9½ hrs. @ 21.00 p/hr.		199.50
		Overtime: 1½hrs. @ 8.50 p/hr.		12.75
6-9-70		Two journeyman electrical service crew with one ton truck fully equipped: 11 hrs. @ 21.00 p/hr.		231.00
		Overtime: 3 hrs. @ 8.50 p/hr.		25.50
6-10-70		Two journeyman electrical service crew with one ton truck fully equipped: 11 hrs. @ 21.00 p/hr.		231.00
		Overtime: 3 hrs. @ 8.50 p/hr.		25.50
6-11-70		Two journeyman electrical service crew with one ton truck fully equipped: 10½ hrs. @ 21.00 p/hr.		220.50

Continued on page 4

SALESMAN REC. BY

No. 4241

TRIANGLE ELECTRIC

Rig Lighting & Equipment

Highway 2 North - Phone 572-6783
WILLISTON, NO. DAKOTA
ELECTRICAL CONTRACTOR

Oil Field Service & Supplies

Cardinal Drilling and Producing
Box 1077
Billings, Montana 59101

INVOICE NO. 2309
INVOICE DATE July 28, 1970
CUST. ORDER NO.
RIG NO.
LOCATION Shank 15-15

TERMS

QUAN.	ITEM NO.	DESCRIPTION	UNIT PRICE	NET
23		3/4" meyers hub	1.95	44.85
1		2" ground clamp		1.50
7		1" ground clamp	.74	5.18
4		#4 lug	.48	1.92
1		8' ground rod		7.40
1		5/8" ground clamp		.92
93'		#4 bare copper	.33	30.69
2		1½" meyers hub	3.00	6.00
1		1½" 90° seal tite conn.		8.90
1		1½" st. seal tite conn.		5.20
3'		1½" seal tite	2.15	6.45
1		Jefferson 25 kva transformer #221-2182		560.00 *
2		1" meyers hub	2.25	4.50
2		1" 90° seal tite conn.	4.95	9.90
2		1" seal tite	1.19	2.38
27'		#2 THW	.64	17.28
11'		#6 THW	.30	3.30
1		1 x 3/4" RE		.41
6		12' heat cable hanger bands	15.00	90.00 *
3		High temp. exp. proof thermostats	67.96	203.88 *
6		Low temp. exp. proof thermostats	57.96	347.76 *
9		½" seal off	2.37	21.33
1		ECLK212 flex coupling		27.00
6		190' heat cables	288.60	1731.60 *
3		150' heat cable		195.20 *
2		43' heat cable	68.68	137.36 *
1		60' heat cable		83.48 *
17		3/4" seal off	2.90	49.30
4		3/4" capped L	2.35	9.40
11		3/4" UNF	2.05	22.55
1		GUP215		9.81
1		3/4" GLT		5.80
6		#2 kerneys	1.40	8.40
3		#4 kerneys	.93	2.79
1		#1 kerneys		1.78
		Continued on page 3		

SALESMAN REC. BY

No. 4232

TRIANGLE ELECTRIC

Rig Lighting & Equipment

Highway 2 North · Phone 572-6783
WILLISTON, NO. DAKOTA
ELECTRICAL CONTRACTOR

Oil Field Service & Supplies

Cardinal Drilling and Producing
Box 1077
Billings, Montana 59101

INVOICE NO. 2309
INVOICE DATE July 28, 1970
CUST. ORDER NO.
RIG NO.
LOCATION Shenk 15-15

TERMS

QUAN.	ITEM NO.	DESCRIPTION	UNIT PRICE	NET
		Hook up electric heat in tank battery.		
1		8' x 4½" post		5.80 *
2		12' 4 x 4	7.20	14.40 *
1		4' x 8' x 3/4" plywood		25.85 *
1		6' Hoffman gutter		41.28 *
2		14" line bolts	.61	1.22
2		10" line bolts	.49	.96
4		6 x ½" bolts	.24	.96
12		line insulators	.12	1.44
1		½" weatherhead		1.16
1		1¼" weatherhead		2.36
3		1 ϕ lightning arrestors	12.95	38.85
4		#2/0 copper to al. kernoys	3.00	12.00
20'		½" rigid	.27	5.40
15'		1½" rigid	.65	9.75
1		1½" 45° seal tite conn.	7.20	7.20
1		1½" st. seal tite conn.		3.70
2'		1½" seal tite	1.56	3.12
1		AB 1232X BNB247 Size 1 starter		130.00 *
1		Paragon time clock		58.90 *
1		.050 control transformer		13.60
7		Sq. D 211 NRB sw.	13.50	94.50
1		8 x 10 Hoffman J box		14.02 *
1		6 x 6 Hoffman J box		10.74 *
3		3/4" offset nipples	.82	2.46
62'		#4 THW	.43	26.66
1		½" capped L		1.85
1		½" meyers hub		1.75
1		Sq. D H 363 RB sw.		78.50
1		1½" RB hub		2.55
3		heat cable contactors 30 amp	48.50	145.50 *
7		3/4" RB hubs	2.55	17.85
4		60 amp 600 volt fustron	2.45	9.80
3		15 amp 600 volt fustron	1.43	4.29
		Continued on page 2		

SALESMAN REC. BY

V- 1242

Engineering Services

Account Name: Schank #15-15

Nature of Service: Run casing and complete well

Dates: June 1-8, 1970

Description of Charge	Days	Rate	Amount	Total
Services Rendered	8	$58.85	470.80	
Meals and Hotel			134.19	
Car Rental or Mileage			116.28	
Company airplane			60.00	
Air fare			33.60	$ 814.87

PORTAL SERVICE CO.

Telephone
701-933-4414 or
701-933-4141

Oil Field Services
Protective Coatings

Box 65
Lignite, N. Dak.
58752

TO

Cardinal Pet. Corp.
Box 2564
Billings, Mt.

RECEIVED
JUL 6 1970
CARDINAL

TERMS: NET	PURCHASE ORDER NUMBER	DATE	INVOICE Nº
		July 1, 1970	1962

Balance Forward

Delivery Ticket Number: 557

To move your 300bbl test tank on you your location

Winch truck	2hrs. @15.00 per hr.	30.00
Foreman	2hrs. @ 4.25	8.50
Roustabout helper	2hrs. @3.50	7.00

803-51-1107
SCHANK 15-1
M fw

TOTAL 45.50

PORTAL SERVICE CO.

Telephone
701-933-4414 or
701-933-4141

Oil Field Services
Protective Coatings

Box 65
Lignite, N. Dak.
58752

RECEIVED
JUL 6 1970
CARDINAL

TO

Cardinal Pet Corp.
Box 2564
Billings, Mt.,

TERMS: NET	PURCHASE ORDER NUMBER	DATE	INVOICE Nº
		July 1, 1970	1961

Balance Forward

Delivery Ticket Number: 556

To move two 300-bbl test tanks and one 400bbl tank to your location

Winch truck and tank trailer	9hrs. @15.00 per hr.	135.00
Helper Roustabout	9hrs. @ 3.50 " "	31.50
Tank rental 2-300bbl tanks @20.00 per day each with 3-day min.		120.00

803-51-1107
SCHANK 15-1
TOTAL 286.50

INVOICE

"We Move The Earth"

L. P. ANDERSON CONTRACTOR, Inc.

Heavy Hauling — Oil Field Construction — Winch Work

Earth Moving — Excavating — Road Building

MILES CITY, MONT.
PHONE
Office 232-3920
Residence 232-3072
P. O. Box 190

GLENDIVE, MONT.
PHONE
Office 365-3321
Residence 365-3462
C. B. Route

Cardinal Petroleum Co.
P.O. Box 2564
Billings, Montana

DATE 6/30/70
INVOICE NO. G 20225
PUR. ORD. NO.

Schank #15-15

6/1/70	Operator-Lay down drill pipe, Travel to Bellfield			
		4½ hrs.	@ 4.75 per hr.	$ 21.38
	#3 Pickup	¾ hr.	@ 3.50 per hr.	1.75
	#69 C-6 Euclid & Dozer	4 hrs.	@16.50 per hr.	74.00
6/2/70	Operator-Clean up Rig Grade, Backfill Anchors, Travel to Glendive	4½ hrs.	@ 4.75 per hr.	21.38
	#69 C-6 Euclid & Dozer	3 hrs.	@16.50 per hr.	55.50
	#1 Pickup	1½ hrs.	@ 3.50 per hr.	5.25
6/2/70	Operator-Cover Anchors, Travel to Bellfield			
		2 hrs.	@ 4.75 per hr.	9.50
	#69 C-6 Euclid & Dozer	1½ hrs.	@16.50 per hr.	27.75
6/2/70	Operator-Help move Backhoe to location, Haul Anchors to location, dig and install anchors	5 hrs.	@ 4.75 per hr.	23.75
	#3 Pickup	3 hrs.	@ 3.50 per hr.	10.50
	#3 3/8 Yard Backhoe	2 hrs.	@ 9.00 per hr.	18.00
				$268.76

171.63

GENERAL OFFICES
P. O. BOX 190
MILES CITY, MONTANA

Thank You

OK

DICKINSON LUMBER CO. 8157

646 EAST VILLARD STREET
Dial 225-5152 DICKINSON, N. DAK. 58601 Box 1243

Sold to Cardinal Coats Date 5-9 1970
Mail Address City
Job Address Shank 15-15 Order No.

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RETD.	PAID OUT	APPROVED BY
			✓				

QUANTITY	DEPT.	DESCRIPTION	FEET	PRICE	AMOUNT
50	-	5½" T Bent		98	49 00
2		Roll Barbwire		12.00	24 00
28	-	Split Cedar Posts		77	21 56
1½	-	1 Staples		20	25
					95 09
				tax	3 81
					98 90
		803-51-1207			

WDW
Mowing Hwy
Shank

All claims and returned goods MUST be accompanied by this bill.

Recv'd By

5

DICKINSON LUMBER CO. 8764

646 EAST VILLARD STREET
Dial 225-8152 DICKINSON, N. DAK. 58601 Box 1243

Sold to Cardinal Petro. Co. Date June 1 1970
Mail Address City
Job Address Shank 15-15 Order No.

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RETD.	PAID OUT	APPROVED BY
			✓				

QUANTITY	DEPT.	DESCRIPTION	FEET	PRICE	AMOUNT
15		5½' tee steel Posts			15 00
1		Roll Barbwire			12 00
2		Split cedar posts			1 56
					28 56
			tax		1 15
					29.71
		803-51-1207			

WDW

All claims and returned goods MUST be accompanied by this bill.

Recv'd By Shank by Mrs Grant

5

FLINT Engineering & Construction Co.

524 PETROLEUM BUILDING BILLINGS, MONTANA 59101

RECEIVED
AUG 5 1970
CARDINAL

SOLD TO . Cardinal Petroleum Company
. P. O. Box 1077
. Billings, Montana 59101
.
DELIVERED AT . Glendive, Montana
DELIVERED TO . Schank 15-15

INVOICE No. . 6411
JOB No. . H93-6 N.D.
ORDER No. .
INVOICE DATE . 7-14-70
DATE STARTED . 7-3-70
DATE COMPLETED . 7-3-70

#13746
7-3-70

Furnish foreman, laborer, tools and transportation necessary to cover up oil and clean up oil spill from frac tanks.

Foreman	1 hr.	@ 4.90	4.90
Laborer	1 hr.	4.10	4.10
1 Ton Winch Truck	1 hr.	4.50	4.50

Total Invoice Amount $ 13.50

PLEASE PAY FROM THIS INVOICE. TERMS NET. STATEMENTS MAILED ONLY UPON REQUEST.

FORM F-7

INVOICE

FLINT-ENGINEERING-1-58

Remit To

FLINT Engineering & Construction Co.

321 Petroleum Building Billings, Montana 59101

Customer Cabot P & G INVOICE NO. 6411

Address _____ Date 7-8-71

Lease Hall Well No. 41-20 Customer P. O. No. _____ Contractor Job No. H & P

FROM	TO	HOURS	WORK PERFORMED	TOTAL AMOUNT
6:30	7:30	1	Crew & Co Delivered Loc.	
			Picked from location	

EMPLOYEES TIME	HOURS	RATE	AMOUNT	EQUIPMENT	UNIT NO.	HOURS	RATE	AMOUNT
Operator Foreman Joe Hall	1	4.0	4.00	Pickup				
Helpers				Truck (1) Ton Flat	100	1	1.5	1.50
Dennis Hall	1	3.0	3.00	Backhoe				
TOTALS			7.00					1.50

Materials Bought Out			
		TOTAL INVOICE AMOUNT	$8.50
TOTAL			

Approved Stanley Platt
FOR CUSTOMER

Approved _____
FOR CONTRACTOR

No 43746

R & R SERVICE

PHONE 575-4035

BOX 453

BELFIELD, NORTH DAKOTA 58622

Please Remit To:
R & R SERVICE
Box 424
WILLISTON, NORTH DAKOTA 58801

To: Cardinal Petroleum Co.
Box 2564
Billings, Montana 59103

Invoice No.: 120
Date: 6-23-70

Purchase Order No.:

DATE	TICKET NO.	AMOUNT
6-16-70	105	6195.25

R & R SERVICE

BOX 453 PHONE 575-4335

BELFIELD, NORTH DAKOTA 58622

No 105

6-16-70

WELL OR LEASE Shank 15-15

ORDERED BY

SOLD TO Cardinal

ADDRESS

One Steam Truck + oper		18 hrs	
Steam Cleaned Tools			
Test Tanks	8 hrs		
3 gal Chemical @ 375	#11.25 ea		
R C Walker			11.25
Harley Kelly	2 hrs	19	100.
	Total		155.25

CARDINAL

DICKINSON-WEST DICKINSON FIELDS
STARK COUNTY, NORTH DAKOTA

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
Prepared by
RAY L HARRISON
PETROLEUM GEOL.

CASE NO. 1005
EXHIBIT NO. 18
AUGUST 20, 1970

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date _____ Case No. 1005
Introduced by Cardinal Pet. Co.
Exhibit 18
Identified by Ray Harrison

R.97 W. R.96 W.

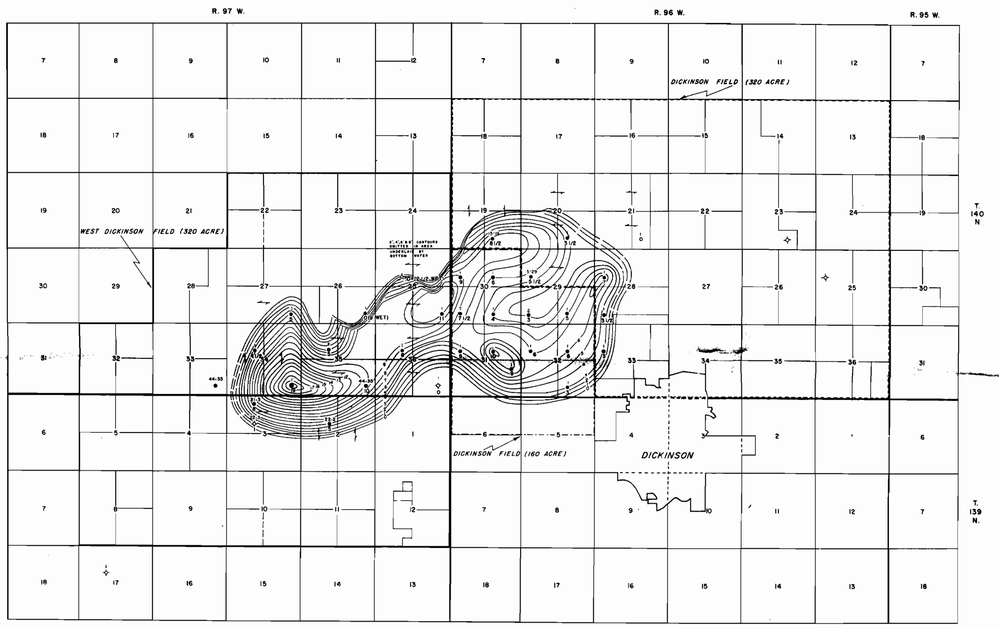
R.96W.

T. 140 N.

T. 139 N.

A A'

GAMMA RAY LOG SHAPE MAP
AND
CROSS SECTION
SHOWING
DEVELOPMENT OF HEATH SANDS



CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA

CASE NO. 1005
EXHIBIT NO. 24
AUGUST 20, 1970

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 24
Identified by Mary Harrison

Exhibit 5

PROPOSED DICKINSON—WEST DICKINSON UNIT
Stark County, North Dakota
NET PAY ISOPACH
HEATH "B" SAND
Contour Interval = 1 Foot
DENOTES DIRECTION OF 320 ACRE SPACED UNIT
WELL NO.
NET PAY
DICKINSON UNIT
ENGINEERING COMMITTEE
January 1968

R.97 W. R.96 W.

T. 140 N.

T. 139 N.

R.96W.

T. 140 N.

N.A. ROYALTIES
No.1 Kralicek, et al
3" B" Sand Poro.
Logged 6-23-69
Cored 7887-7923
D.S.T. 7879-7923
5-30-120-30
Rec. 90' Oil
990' OB GCWC
360' OG & WCM
270' SW
MFE: Tool
500 cc Oil
1500 cc W
2 cfg
FP
SIP
D & A

CARDINAL
No.5-15 Kadrmas, et al
Location

CARDINAL
No.5-14 Schank, et al
Location

N.A. ROYALTIES
CARDINAL
No.1 Freed
8" B" Sand Poro
Logged 8-1-69
Cored 7896-7934
DST 7882-7934
5-30-120-30
Rec: 4' Oil
1060' SO & GCWC
26' OCM
MFE Tool:
600 cc Oil
2000 cc SGCM
15 cfg
FP 521-521
527-524
SIP 2990-2047
D & A

CARDINAL
No.15-15 Schank, et al
8" B" Sand Poro.
Logged 6-3-70
No Core
DST 7865-7845
10-30-120-30
Rec: 3521' Oil
434' MC Oil
MFE Tool
800 cc Oil
172 cfg
FP 429-429
417-1403
SIP 2256-2076
Perf: 7886-92 & 7894-96
Cum. Prod 7-1-70 6,810 BO
June Rate 1970 426 BOPD
Current Rate 402 "

CONTINENTAL
No.1 Wolfe-FLB
0' B" Sand Poro.
Logged 5-13-70
Cored 7852-82
No D.S.T. D & A

N.A. ROYALTIES
No.1 Head-Wock-State
8 1/2" B" Sand Poro.
Logged 5-28-69
Cored 7990-8036
D.S.T. 7986-8036
5-30-120-30
Rec: 4394' Oil
MFE Tool:
1820 cc Oil
2.7 cfg
FP 563-588
664-1794
SIP 2648-2572
Perf: 7996-8010
Cum. Prod 7-1-70 113,381 BO
June Rate 1970 281 BOPD
Current Rate 284

21

CARDINAL
No.15-21 Head-Wock-State
4" B" Sand Poro
Logged 2-21-68
Cored 7822-72
DST 7930-72
5-30-120-30
Rec: 180' HO & GCM
180' HG & MC Oil
2340 Oil
MFE Tool:
3000 cc G & Mc Oil
FP 632-975
SIP 3081-2693
Perf: 7838-42
Cum. Prod. 7-1-70 106,095 BO
June Rate 1970 72 BOPD
Current Rate 72

N.A. ROYALTIES
No.1 Wolfe
11" B" Sand Poro
Logged 12-13-69
Cored 7920-36
D.S.T. 7926-50
5-30-120-30
Rec: 5875' Oil
20' M
MFE Tool:
1580 cc Oil
2.6 cfg
FP 425-500
624-2035
SIP 2235-2235
Perf: 7934-45
Cum. Prod 7-1-70 95,121 BO
June Rate 1970 579 BOPD
Current Rate 570 "

22

CONTINENTAL
No.2 Pribyl-Hewson
7" B" Sand Poro.
Logged 6-9-70
New Well- Information not complete
Current Rate P 410 B BOPD

CONTINENTAL
No.1 Pribyl-Hewson
0' (?) B" Sand Poro.
Logged 4-24-70
Cored 7812-82
No D.S.T. D & A

CONTINENTAL
No.1 Jilek
9" B" Sand Poro
Logged 4-1-70
Cored 7895-7921
No D.S.T.
Perf 7904-06
7908-14
7916-18
Cum. Prod. 7-1-70 33,020 BO
June Rate 1970 344 BOPD
Current Rate 258 "

23

CONTINENTAL
No.1 Jilek-Ridl
0' (?) B" Sand Poro.
Logged 10-23-67
Cored 7865-7922
DST 7860-7922 (C Sand)
30-60-?
Rec: 3360' SW
360' WCM
FP 34-2204
SIP 3415-3415
D & A

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. C.
Exhibit 23
Identified by Ray Harrison

CARDINAL

DICKINSON-WEST DICKINSON FIELDS
STARK COUNTY, NORTH DAKOTA

WELL INFORMATION MAP OF PORTION OF DICKINSON FIELD HEATH SAND POOL

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
Prepared by
RAY L. HARRISON
PETROLEUM GEOL.

CASE NO. 1005
EXHIBIT NO. 23
AUGUST 20, 1970

R.97 W. | R.96 W.

T. 140 N.

T. 139 N.

———— Zero Edge of Effective "B" Sand Porosity

— — — Oil-Water Contact (-5400)

CARDINAL

DICKINSON-WEST DICKINSON FIELDS
STARK COUNTY, NORTH DAKOTA

DELINEATION OF DICKINSON-WEST DICKINSON HEATH "B" SAND OIL POOL

(OIL-WATER CONTACT-5400)

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co
Exhibit 22
Identified by Ray Harrison

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
Prepared by
RAY L. HARRISON
PETROLEUM GEOL.

CASE NO. 1005
EXHIBIT NO. 22
AUGUST 20, 1970

R.97 W. | R.96 W.

T. 140 N.

T. 139 N.

CARDINAL

DICKINSON-WEST DICKINSON FIELDS
STARK COUNTY, NORTH DAKOTA

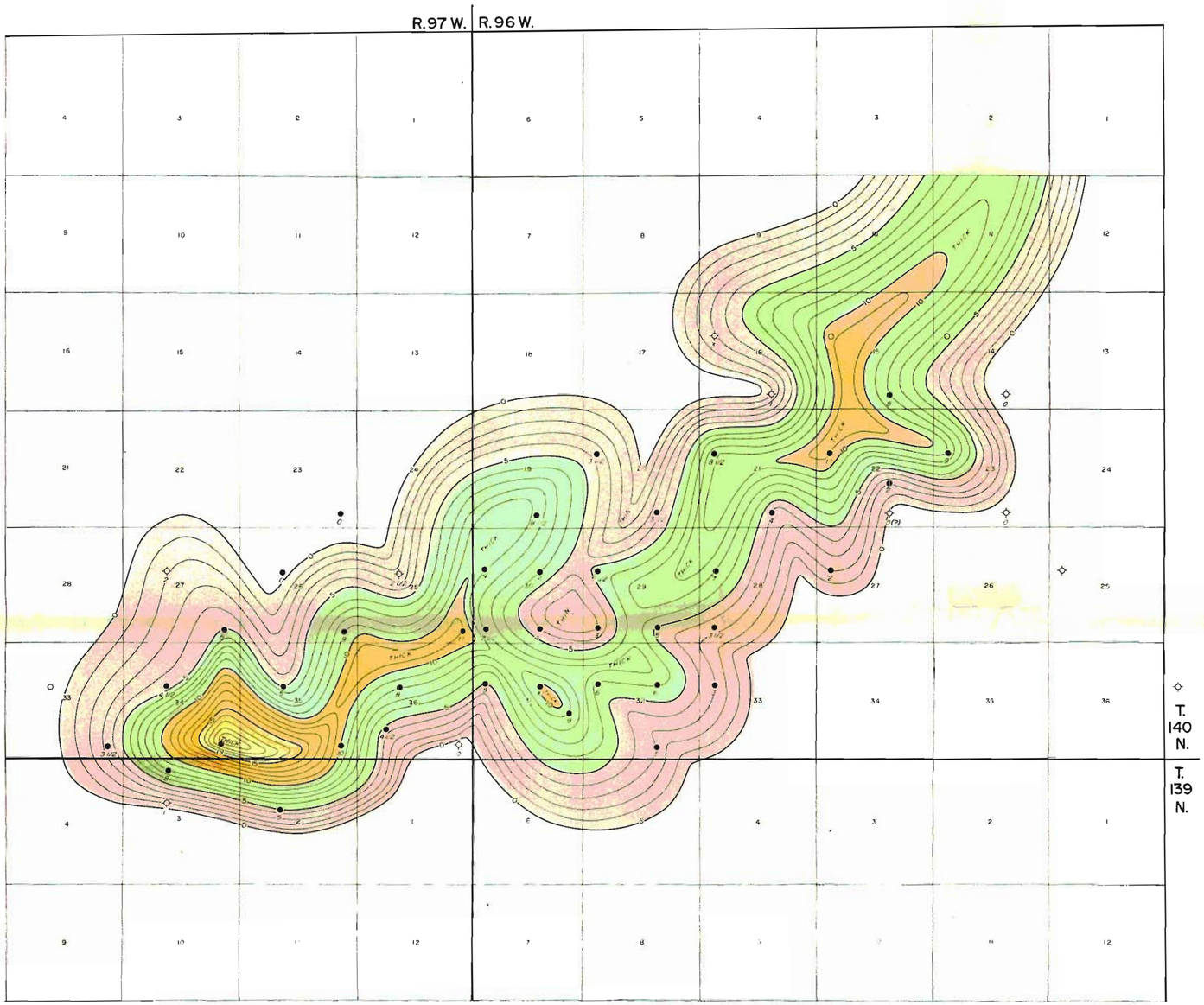
STRUCTURE CONTOUR MAP
TOP OF THE
HEATH "B" SAND POROSITY
(OR ITS STRATIGRAPHIC EQUIVALENT IN NON-POROUS WELLS)

CONTOUR INTERVAL = 10'

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
Prepared by
RAY L. HARRISON
PETROLEUM GEOL.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 21
Identified by Ray Harrison

CASE NO. 1005
EXHIBIT NO. 21
AUGUST 20, 1970



CARDINAL

DICKINSON-WEST DICKINSON FIELDS
STARK COUNTY, NORTH DAKOTA

ISOPACH MAP
NET EFFECTIVE HEATH "B" SAND POROSITY

ISOPACH INTERVAL = 1'

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit No. 20
Identified by Ray Harrison

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA
Prepared by
RAY L. HARRISON
PETROLEUM GEOL.

CASE NO. 1005
EXHIBIT NO. 20
AUGUST 20, 1970

R.97 W. | R.96 W.

T. 140 N.

T. 139 N.

DICKINSON-WEST DICKINSON FIELDS
STARK COUNTY, NORTH DAKOTA

STRUCTURE MAP
TOP OF HEATH LIMESTONE

CONTOUR INTERVAL = 10'

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

Date AUG. 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit -- 19 ---
Identified by Ray Harrison

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA

Prepared by
RAY L. HARRISON
PETROLEUM GEOL.

CASE NO. 1005
EXHIBIT NO. 19
AUGUST 20, 1970

ENC. 9

R. 97 W

R 96 W.

R. 95 W

T 140 N

T. 139 N.

WEST DICKINSON FIELD (320 ACRE)

DICKINSON FIELD (320 ACRE)

DICKINSON FIELD (160 ACRE)

DICKINSON

DUAL

DUAL

DUAL

INJECTION WELL

FUTURE INJECTION WELL

CARDINAL PETROLEUM COMPANY
BILLINGS, MONTANA

CASE NO. 1005
EXHIBIT NO. 25
AUGUST 20, 1970

DICKINSON UNIT
ENGINEERING COMMITTEE

○ Proposed location

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 25
Identified by Ray Thomason

PROPOSED DICKINSON—WEST DICKINSON UNIT
Stark County, North Dakota
NET PAY ISOPACH
HEATH "B" SAND
Contour interval = 1 foot
2— WELL NO.
7— NET PAY
May 1968

RECEIVED
JUN 26 1970
CARDINAL

NATIONAL COMPANY
STATE OF NORTH DAKOTA
Date AUG 20 1970 Case No. 1004
Introduced by Cardinal Pet. Co.
Exhibit 27
Identified by Don Roberts

THE HOME-STAKE COMPANIES
THE HOME-STAKE OIL & GAS COMPANY THE HOME-STAKE ROYALTY CORPORATION
507 PHILTOWER
TULSA, OKLAHOMA 74103

June 24, 1970

OFFICERS
AND DIRECTORS

RUSSEL S WILKINSON
CHAIRMAN OF THE BOARD
MEMPHIS, TENNESSEE

O. STROTHER SIMPSON
PRESIDENT & TREASURER
TULSA, OKLAHOMA

CHAS. C. KING
VICE PRESIDENT
TULSA, OKLAHOMA

W. G SEAL
SECRETARY
TULSA, OKLAHOMA

RADFORD BYERLY
HOUSTON, TEXAS

OLIVER A. GUTMAN
ST. LOUIS MISSOURI

W. E. JONES
OPELOUSAS, LA.

GEORGE R. SIMPSON
NEW YORK CITY

JOHN G SIMPSON
MUSKOGEE, OKLAHOMA

O. S. SIMPSON, JR.
HOUSTON, TEXAS

R. KENNETH SPARKS, JR.
COLORADO SPRINGS, COLORADO

JOE K. TRAUERMAN
SAN JOSE, COSTA RICA

Re: Application pooling all interests
Spacing Unit $E\frac{1}{2}$ Sec. 15-140N-96W,
Stark County, North Dakota

Cardinal Petroleum Company
P. O. Box 1077
Billings, Montana 59103

Attention: Mr. Donald K. Roberts, Attorney

Gentlemen:

We acknowledge the receipt of copy of your letter of June 22 to North Dakota Industrial Commission in regard to the above captioned application and your letters of like date to Mineral Owners in $E\frac{1}{2}$ of said Section 15 explaining that before drilling the producing well in SW SE of Section 15 you made application to N. D. Industrial Commission to drill thereon, designating the $E\frac{1}{2}$ as the Spacing Unit, and that such application was approved. We did not know this yesterday when we received from North American Royalties, Inc., a Communitization Agreement, pooling and communitizing the minerals under the $S\frac{1}{2}$ of Section 15. Being unaware of the facts set out in your letter, yesterday we signed and returned to North American Royalties, Inc. the Communitization Agreement that they submitted to us. It is apparent, as you point out, that if the Spacing Unit for the well you have drilled is established as the $S\frac{1}{2}$, rather than the $E\frac{1}{2}$ as your request, the interest of the undersigned companies in the well would be cut in half and we would, of course, be prejudiced by this. We and North American Royalties have been good friends for many years and we would be unwilling to take any action that might jeopardize these good relations. Thus, for these reasons, we believe we are forced to stand by the Communitization Agreement we have signed for North American Royalties and not oppose them in this proceeding regardless of the prejudice we may suffer therefrom.

Very truly yours,

THE HOME-STAKE OIL & GAS COMPANY
THE HOME-STAKE ROYALTY CORPORATION

O. Strother Simpson
President

OSS:fp
cc: No. American Royalties, Inc.
Box 1476
Bismarck, North Dakota

CERTIFICATE OF PUBLICATION

THE DICKINSON PRESS
Dickinson, North Dakota

STATE OF NORTH DAKOTA, }
County of Stark. }

Ero Baath, 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. 1970, and ending on the 4 day of Aug A. D., 1970, both inclusive.

Ero Baath

Sworn to and subscribed to before me this 5 day of August A. D. 1970.

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.)

$ 6.28
Date 8/21/70
HAROLD NELSON
State Printer

AFFIDAVIT OF PUBLICATION

STATE OF NORTH DAKOTA, }
County of Burleigh. } ss

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 newspaper was regularly published.

Carmen Dullum

Subscribed and sworn to before me this 7 day of August, A. D. 19 70.

Paul J. Patera

Notary Public, Burleigh County, N. D.

My commission expires March 24, 1976

Cost of Publication, $ 12.80

cld
AL-25

PAUL J. PATERA
Notary Public, BURLEIGH CO., N. Dak.
My Commission Expires Mar. 24, 1976.

NOTICE OF PUBLICATION
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N. D. INDUSTRIAL COMMISSION
William L. Guy, Governor
8/6

Date 8/21/70

HAROLD NELSON
State Printer