

BEFORE THE INDUSTRIAL COMMISSION

OF THE STATE OF NORTH DAKOTA

IN THE MATTER OF A HEARING CALLED ON A
MOTION OF THE COMMISSION TO CONSIDER THE
TEMPORARY SPACING FOR THE DEVELOPMENT OF
AN OIL FIELD DISCOVERED BY QUINTANA PETROLEUM
CORPORATION IN ITS #1 CITY OF MOHALL WELL
LOCATED IN SW SW OF SECTION 31, TOWNSHIP 162
NORTH, RANGE 83 WEST, BOTTINEAU COUNTY,
NORTH DAKOTA, DEFINE THE LIMITS OF THE FIELD
AND ANY POOLS THEREIN, AND ENACT SUCH SPECIAL
FIELD RULES AS MAY BE NECESSARY.

CASE NO. 674
ORDER NO. 731

TEMPORARY ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:30 a.m. on 19th August 1964, at Bismarck, North Dakota, before the Industrial Commission of North Dakota, hereinafter referred to as the "Commission".

NOW, on this 3rd day of September, 1964, 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 geological and engineering evidence presented to the Commission bearing on the matter of well spacing indicates that the Mohall-Madison pool as classified and defined by this temporary order should, for a period not to exceed eighteen (18) months from date of this order, be developed on a pattern of one well to 80 acres in order to drain efficiently the recoverable oil from said pool, assure orderly and uniform development, avoid the drilling of unnecessary wells, and prevent waste in a manner to protect correlative rights.

(2) That temporary 80 acre spacing in this pool will result in the efficient and economical development of the field as a whole and will operate so as to prevent waste and provide maximum ultimate recovery, will avoid the drilling of unnecessary wells and will protect correlative rights.

(3) That certain special field rules are necessary to prevent waste and protect against the pollution of surface waters.

IT IS THEREFORE ORDERED:

(1) That the following described tracts of land in Bottineau and Renville Counties, North Dakota, be and the same are hereby designated the Mohall Field:

BOTTINEAU COUNTY

Township 162 North, Range 83 West, 5th PM
All of section 31

Township 161 North, Range 83 West, 5th PM
All of section 6

RENVILLE COUNTY

Township 162 North, Range 84 West, 5th PM
All of section 36

Township 161 North, Range 84 West, 5th PM
All of section 1

together with those additional quarter-quarter sections, or governmental lots corresponding thereto as may be proven productive by wells drilled as direct offsets to wells included in the limits as set forth above, provided further that such extensions of the pool boundaries shall include only sufficient acreage to form a spacing unit for such wells.

(2) That the Mohall-Madison pool be, and the same is hereby defined, as that accumulation of crude oil and natural gas found below the top of the Frobisher-Alida interval and above the top of the Tilston interval within the limits of the Mohall Field as defined above.

(3) That 80 acre spacing is hereby established for the Mohall-Madison Pool in Bottineau County, North Dakota.

(4) That all wells drilled in the Mohall-Madison Pool or within $1\frac{1}{2}$ miles thereof, shall be located in the center of the southwest and northeast quarters of the governmental quarter sections, or lots corresponding thereto.

(5) That the spacing units be rectangular in shape and consist of any two adjacent quarter-quarter sections (or governmental lot or lots corresponding thereto) containing not less than 72 acres as determined by, or in accordance with governmental survey, located with the same quarter section.

(6) That no well shall be drilled or produced in the above mentioned field except in conformity with the spacing pattern set forth above without a special order of the Commission after due notice and hearing.

(7) That the following special field rules be, and the same are hereby enacted and shall apply to the subsequent drilling and operation of wells in the Mohall Field.

(a) That the casing program of all wells drilled hereafter in said Field shall include at least two strings of pipe set in accordance with the following program:

(i) The surface string shall consist of new or reconditioned pipe that has been previously tested to one thousand (1000) pounds per square inch. The casing shall be set and cemented at a point not higher than one hundred and fifty (150) feet below the surface of the ground. Cementing shall be by the pump and plug method, and sufficient cement shall be used to fill the annular space back of the pipe to the surface of the ground, or the bottom of the cellar. Cement shall be allowed to stand a minimum of twelve (12) hours before drilling the plug or instituting tests.

(ii) The producing, or oil string, shall consist of new or reconditioned pipe that has been previously tested to three thousand (3000) pounds per square inch. Cementing shall be by the pump and plug method, and sufficient cement shall be used to fill one and one-half ($1\frac{1}{2}$) times the annular space between the shoe and a point fifty (50) feet above the bottom of the Spearfish Formation, but not less than 250 sacks of cement shall be used, and the cement shall be allowed to stand twenty-four (24) hours before drilling the plug or initiating tests.

(b) The producing, or oil string, shall be set below the base of the Spearfish and the string shall be tested by either lowering the fluid level or by application of pump pressure. If the test is made by lowering the fluid level, the well shall be bailed dry or at least to a point midway to the bottom of the string and the top of the cement, behind the string, and shall be allowed to stand a minimum of two (2) hours. If, after that period the fluid level shows a rise equivalent to two (2) percent of the distance bailed, the string shall be repaired so as to exclude water. Thereafter the casing shall be again tested in the same manner. If the test is made by application of pump pressure, a pressure of at least fifteen hundred (1500) pounds per square inch shall be applied. If, at the end of thirty (30) minutes this pressure drops one hundred and fifty (150) pounds per square inch or more, the string shall be repaired so as to exclude water. Thereafter the casing shall be again tested in the same manner. Further work shall not proceed until a satisfactory test has been obtained.

(c) All christmas tree fittings and well-head connections shall have a working pressure of at least one thousand (1000) pounds per square inch or a test pressure of at least two thousand (2000) pounds per square inch.

(d) The gas-oil ratio of each well in the field shall be determined four times annually during the months of February, May, August, and November, and reported to the State Geologist within fifteen (15) days after the end of the month in which they are determined. All measurements shall be made under the supervision of the State Geologist or his designated representatives.

(e) Any well with a gas-oil ratio of over two thousand (2000) cubic feet per barrel shall have the allowable oil production adjusted in accordance with Rule 506 in Industrial Commission's Order No. 1, General Rules and Regulations for the Conservation of Crude Oil and Natural Gas for the State of North Dakota.

(f) The reservoir pressure of all flowing wells, and the static and working fluid levels of all pumping wells, shall be determined semi-annually during the months of May and November. The results thereof shall be reported to the State Geologist on or before the 15th of the month following the month in which the measurements were made. All pressure determinations shall be measured at or adjusted to a datum of two thousand five hundred and fifty (2550) feet below sea level and after the well has been shut in for a period of approximately forty-eight (48) hours. All reservoir pressure measurements, or fluid level determinations, shall be made under the supervision of the State Geologist or his designated representative, and by methods approved by the State Geologist.

(7) That this order shall cover all the Mohall-Madison Pool, common source of supply of crude oil and natural gas, as hereinabove defined, and shall continue in full force and effect for eighteen (18) months from the date hereof.

DONE, at Bismarck, North Dakota, this 3rd day of September, 1964

THE NORTH DAKOTA INDUSTRIAL COMMISSION

William L. Guy

William L. Guy, Governor

Helgi Johanneson

Helgi Johanneson, Attorney General

Math Dahl


Math Dahl, Commissioner of Agriculture & Labor

STATE OF NORTH DAKOTA
COUNTY OF GRAND FORKS

ss

AFFIDAVIT OF
MAILING

I, Clarence B. Folsom, Jr., being first duly sworn upon oath,
depose and say: That I am over twenty-one years of age; that on the
14 day of Sept., 1964, I enclosed in separate envelopes true
and correct copies of the attached Order No. 731 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: Ernest R. Fleck
Box 1436
Bismarck, North Dakota
all of whom filed written appearances at the hearing of the Industrial
Commission on Case No. 674.


(Signature of person mailing
Order and preparing Affidavit)

Subscribed and sworn to before
me this 15th day of Sept., 1964.

Lessee Apphatt
Notary Public, Grand Forks County

THIS FORM MUST BE FILLED OUT AND HANDED TO THE REPORTER IN
ATTENDANCE AT THE HEARING

STATE INDUSTRIAL COMMISSION

STATE OF NORTH DAKOTA

APPEARANCE

Place Bismarck Date AUG 19 1964 Docket No. 674

Name Conrad B. Fisk vs. _____

Address Box 1436

Appearing for Gruntana

EXHIBITS FOR MOHALL FIELD HEARING

BOTTINEAU COUNTY, NORTH DAKOTA

NORTH DAKOTA GEOLOGICAL SURVEY

CASE NO. 674

AUGUST 19, 1964

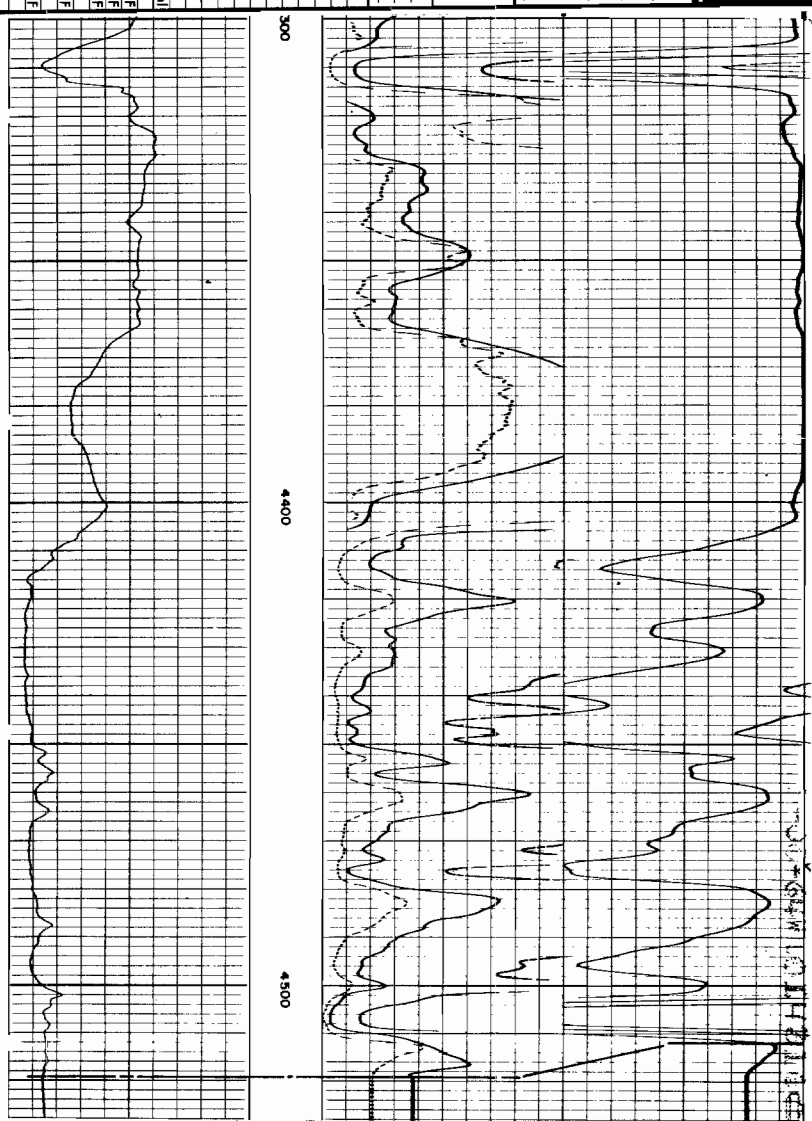
PREPARED BY

QUINTANA PETROLEUM CORPORATION

COUNTY		BOTTINEAU, N. DAK.	
FIELD or LOCATION		WILDCAT	
WELL		CITY OF MOHALL #1	
COMPANY			
COMPANY		QUINTANA PETROLEUM CORPORATION	
WELL		CITY OF MOHALL #1	
FIELD		WILDCAT	
COUNTY		BOTTINEAU	
STATE		NORTH DAKOTA	
LOCATION		660 N/S 610 E/W	
Sec. 31		Twp. 162N Rge. 83W	
Other Services:		SGR	
Permanent Datum:		Elev. 1594	
Log Measured From:		K8 8 Ft. Above Perm. Datum	
Drilling Measured From:		K8 G.I. 1594	
Date			
Run No.			
Depth - Driller			
Depth - Logger			
Btm. Log Interval			
Top Log Interval			
Coring - Driller			
Coring - Logger			
Bit Size			
Type Fluid in Hole			
MUD			
Dens. Visc.			
pH Fluid Loss			
Source of Sample			
Flow Line			
Rm. @ Meas. Temp.			
Rm. @ Meas. Temp.			
Rm. @ Meas. Temp.			
Rm. @ Meas. Temp.			
MEAS			
Time Since Circ.			
Equip. Location			
Witnessed By			
MR. DYER & MR. HAUF			

SCHLUMBERGER
INDUCTION - ELECTRICAL LOG
SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

CITY OF MOHALL
NO. 1 WELL



INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date AUG 19 1964 Case No. 674
Introduced by Quintana
Exhibit 1
Identified by ms

Top of Mission Canyon
4,406' (-2,804')

Perforations - 4,418'
4,430'

Drill Stem Test - 4,402'
4,442'

Core - 4,412'
4,442'

Total Depth - 4,520'

- $\left \frac{10}{\leftrightarrow} \right $ +		0	A-16" M	4	6 FF40	
		0	SHORT NORMAL	20	INDUCTION	
		0		200	1000	0
		0		200	2000	1000
		0	INDUCTION	20	3000	2000
		0		200		
		0		200		
SPONTANEOUS-POTENTIAL millivolts	DEPTHS	RESISTIVITY ohms - m ² /m		CONDUCTIVITY millimhos/m = $\frac{1000}{\text{ohms} \cdot \text{m}^2/\text{m}}$		

EXHIBIT NO. 1
CASE NO. 674

23		24		19		20		21
Art Crooks	Frank E. Sohn	Geo Wittman	Caroline & Roy Brachelsburg	Bk. of ND 1/2 min Nellie Wittman	Arthur Ingelstad	Geo & Cecelia Wittman	Andrew & Florence Wittman	
26	Amerada	Skelly 25		Texaco		Amerada 29	Amerada 28	
INDUSTRIAL COMMISSION STATE OF NORTH DAKOTA Date AUG 19 1964 Case No. 674 Introduced by Stacy Crooks Exhibit Paintana 2 Identified by Ado L. Smith			Skelly	Joseph & Frank J. Gehringar		Andrew J. & Florence Wittman	Wm. Wittman & T.P. Clifford	
		Arthur Crooks	Skelly Louis R. & Luverne Erickson	Texaco			Amerada	
			Roland L. Wade		Wm. Wittman & Theo P. Clifford		Clark Kelly	
Amerada 35	Amerada	Amerada 36	Amerada	Quintana	Amerada 31	Skelly		33
Clark Kelly	St. Glen Wade	State All min. Louis P. Erickson		Ivan B. Gehringar		Roland L. Wade	Williamson	
Texaco	Amerada	Amerada	Quintana	Quintana		Farmers Expl.		
Reuben Halvarson	Melvin Duerre	State All Min. Melvin Duerre	Quintana 4620 City of Mohall	Giant M. Morrison		Harold Ring	Bk of ND 1/2 Wm. Wittman, et al	
Amerada 2	Amerada	Amerada 1	Skelly	Skelly 6	Quintana	Skelly	Farmers Expl. 5	4
Albert O Gilseth		State 1/2 Clarence Gilseth	State 1/2 Gail Clifford	Quintana	Quintana	Quintana	Walden	Wm Wittman I.P. Clifford
Kerr McGee	Amerada	Amerada	Quintana	Quintana	Quintana	Quintana	Walden	
State 1/2 min. Norbert Nelson	Melvin & Sylvia Duerre	Erwin Brendal	Gail & Theo P. Clifford	George Shurson	Sam Simpson	Lulu Belle & Carl O. Gilseth	Eleanor & Kathleen Dalap	Hemming Halveson
Mar-Win 11		Mar-Win 12	Quintana	Farmers Expl. 7	Quintana	Quintana 8	Quintana 9	
Wm. Connala	Orville P. Wittman	Sam Simpson	LL & M.J. Kelly	Geo Wittman	Arthur B. Wittman	P.E. Wilms	Carl Crogen	
		Skelly	Farmers Expl.	Quintana	Mar-Win Dev.	Quintana		
Harry P. Martin & Orville P. Wittman	Orville P. Wittman	Frank J. Gehringar	Wm Wittman & T.P. Clifford	Dorothy A. Palmer	Bk of N.D. 1/2 Gust Herigstad	Otto & Arthur Halvorson	Otto Halverson	
14		13	Texas Co.	Texas Co 18				
Melvin & Sylvia Duerre	State Orville P. Wittman	L.M. Hellebust	Wm. O. Hugen	Karson Kirkeley, et al				
	City of Mohall		Lauritz Johansen & P.L. Thompson					
Mohall Airport								

QUINTANA PET. CORP.
BOTTINEAU CO. NORTH DAKOTA

MOHALL FIELD

EXHIBIT NO. 2
CASE NO. 674

SCALE
0 1000 3000 5000

COMPLETION DATA
 QUINTANA PETROLEUM CORPORATION
 CITY OF MOHALL #1

SW, SW, Sec. 31, T 162 N, R 83 W,
 Bottineau County, North Dakota

Date Completed	Total Depth	Perforations	KB Elevation	Final 24 Hour Potential Test - June 30, 1964						
				24 Hr. Prod., BOPD	Salt Water Prod., %	Gravity, °API	Pump Tubing	Stroke, In.	Strokes, Min.	Working Barrel, In
May 28, 1964	4,520'	4,418-4,430'	1,602'	40.06	42	28.6	2-3/8" - 4,464'	54	15	1-1/2"

INDUSTRIAL COMMISSION
 STATE OF NORTH DAKOTA
 AUG 19 1964
 Date
 Introduced by *Quintana*
 Exhibit *504*
 Identified by *SW*

EXHIBIT NO. 3
 CASE NO. 674

674



SKELLY OIL COMPANY

P. O. Box 1650
TULSA 2, OKLAHOMA

August 10, 1964



PRODUCTION DEPARTMENT

C. L. BLACKSHER, VICE PRESIDENT

W. P. WHITMORE, MGR. PRODUCTION

W. D. CARSON, MGR. TECHNICAL SERVICES

ROBERT G. HILTZ, MGR. JOINT OPERATIONS

GEORGE W. SELINGER, MGR. CONSERVATION

Re: Case No. 674

North Dakota Industrial Commission
c/o Governor's Office
State Capitol
Bismarck, North Dakota

Gentlemen:

Skelly Oil Company concurs with Quintana Petroleum Corporation's application for temporary spacing for the development of an oil field discovered by Quintana Petroleum Corporation in its No. 1 City of Mohall well, located in the SW/4 SW/4 of Section 31, Township 162 North, Range 83 West, Bottineau County, North Dakota.

We recommend 80-acre spacing with the permitted wells to be located in the approximate center of the SW/4 and approximate center of the NE/4 of each governmental quarter section.

Yours very truly,

RJJ:br

cc-Dr. Wilson Laird
Geological Survey
University Station
Grand Forks, North Dakota

Quintana Petroleum Corp.
c/o Mr. Ernest Fleck, Attorney
Bismarck, North Dakota

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

MA095 SSJ146 M GRA054

1964 AUG 11 PM 1 24

(D HSB279) PD=FAX HOUSTON TEX 11 1108A CST=
DR WILSON LAIRD, NORTH DAKOTA GEOLOGICAL SURVEY=
GRAND FORKFS NDAK=

HAVE NOT RECEIVED OFFICIAL NOTIFICATION OF AUGUST 19
HEARING ON MOHALL AREA. PLEASE ADVISE CASE NUMBER BY
COLLECT RETURN WIRE. WOULD APPRECIATE YOU CHECKING
NOTIFICATION LIST TO INSURE THAT QUINTANA IS INCLUDED=
J J CROWDER.

138
5251
TO

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE.