

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 1266
(CONTINUED)
ORDER NO. 1382

IN THE MATTER OF A HEARING CALLED ON A
MOTION OF THE COMMISSION TO CONSIDER THE
APPLICATION OF BAUER AND LAND FOR AN
ORDER SUSPENDING A PERMIT TO DRILL ISSUED
TO CONTINENTAL OIL COMPANY FOR A WELL
LOCATED IN THE NW NW OF SECTION 33,
TOWNSHIP 140 NORTH, RANGE 97 WEST, STARK
COUNTY, NORTH DAKOTA, AND TO REVIEW AND
CONSIDER AMENDING THE SPACING
REQUIREMENTS FOR THE SOUTH HEART AND
DICKINSON FIELDS, STARK COUNTY, NORTH
DAKOTA.

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:30 a.m.
on the 14th day of October, 1975, in Bismarck, North Dakota, before
the Industrial Commission of North Dakota, hereinafter referred to as the
"Commission."

NOW, on this 13th day of November, 1975, 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 this cause and the subject matter thereof.

(2) That on the 14th of July, 1975, the North Dakota Geological
Survey issued Permit No. 5678 to Continental Oil Company for a well to be
drilled 500 feet from the north line and 500 feet from the west line of
Section 33, Township 140 North, Range 97 West, Stark County, North
Dakota, and that said location is within the outline of the Dickinson Heath
Sand Unit, as defined by Commission Order No. 1186.

(3) That Commission Order No. 1202 dated March 13, 1973, authorized
the drilling of wells at any location within the Dickinson Heath Sand Unit
area and further provided that no well be located closer than 500 feet from
the unit boundary.

(4) That Commission Order No. 1264 dated January 29, 1974,
established the South Heart-Heath Pool, and set spacing at one well to each
320 acres with wells to be located not less than 660 feet from a spacing
unit boundary nor closer than 1860 feet to a well producing from or drilling
to the pool.

(5) That the South Heart Field has boundaries in common with the Dickinson Heath Sand Unit those being the west line of Section 27, the north line and the west line of Section 33, Township 140 North, Range 97 West, Stark County, North Dakota.

(6) That information obtained from wells drilled in the South Heart Field whose locations are the center of the E/2 of the SE/4 of Section 29, the SE SE of Section 28, the SE SW of Section 28, and the NE NE of Section 32, all in Township 140 North, Range 97 West, Stark County, North Dakota, indicates that said wells produce oil from the same common source of supply as wells in the Dickinson Heath Sand Unit.

(7) That the Dickinson Heath Sand Unit might be expanded to include wells in the South Heart Field but by using the existing Dickinson Unit unitization formula the owners of interests in said wells might not receive their equitable share of Unit participation.

(8) That said wells in the South Heart Field have produced for a year or less and that prior to their completion, oil was drained from that portion of the Heath Sand Reservoir by production operations in the Dickinson Heath Sand Unit.

(9) That in the hearings to establish spacing in the two fields, expert witnesses gave testimony and evidence that one well would drain in excess of 320 acres, and that 320-acre spacing would provide for the efficient drainage and maximum ultimate recovery of oil and gas from the Heath Pool.

(10) That there are presently two producing wells in the Dickinson Heath Sand Unit on a 320-acre tract described as the N/2 of Section 33, Township 140 North, Range 97 West, Stark County, North Dakota, and that Unit Operator has a valid permit to drill a third well on said 320-acre tract located in the NW NE of said Section 33.

(11) That a well located 500 feet from the west line and 500 feet from the north line of Section 33, Township 140 North, Range 97 West, together with those mentioned in (10) above, would recover more than their fair and equitable share of the oil in the Heath Sand Reservoir common source of supply.

(12) That the South Heart-Heath Pool should be unitized and secondary recovery operations including injection wells along the common boundary with the Dickinson Heath Sand Unit should be initiated at the earliest possible date.

IT IS THEREFORE ORDERED:

(1) That Permit No. 5678 issued to Continental Oil Company for a well located in the NW NW of Section 33, Township 140 North, Range 97 West, Stark County, North Dakota, be and same is hereby revoked.

(2) That Paragraph (2), Section C, of Commission Order No. 1202 be amended in the following respect:

(b) In order to assure the optimum location of producing wells and injection wells for the most efficient operation of the project, the Unit Operator shall be allowed to drill wells at any location within the Dickinson Heath Sand Unit area as the same is now or may hereafter be defined provided no well is located closer than 660 feet from the Dickinson Heath Sand Unit Boundary.

(3) That Bauer & Land and Inecxo Oil Company report to the Commission at the June, 1976, hearing on the progress of unitization of the South Heart Field.

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

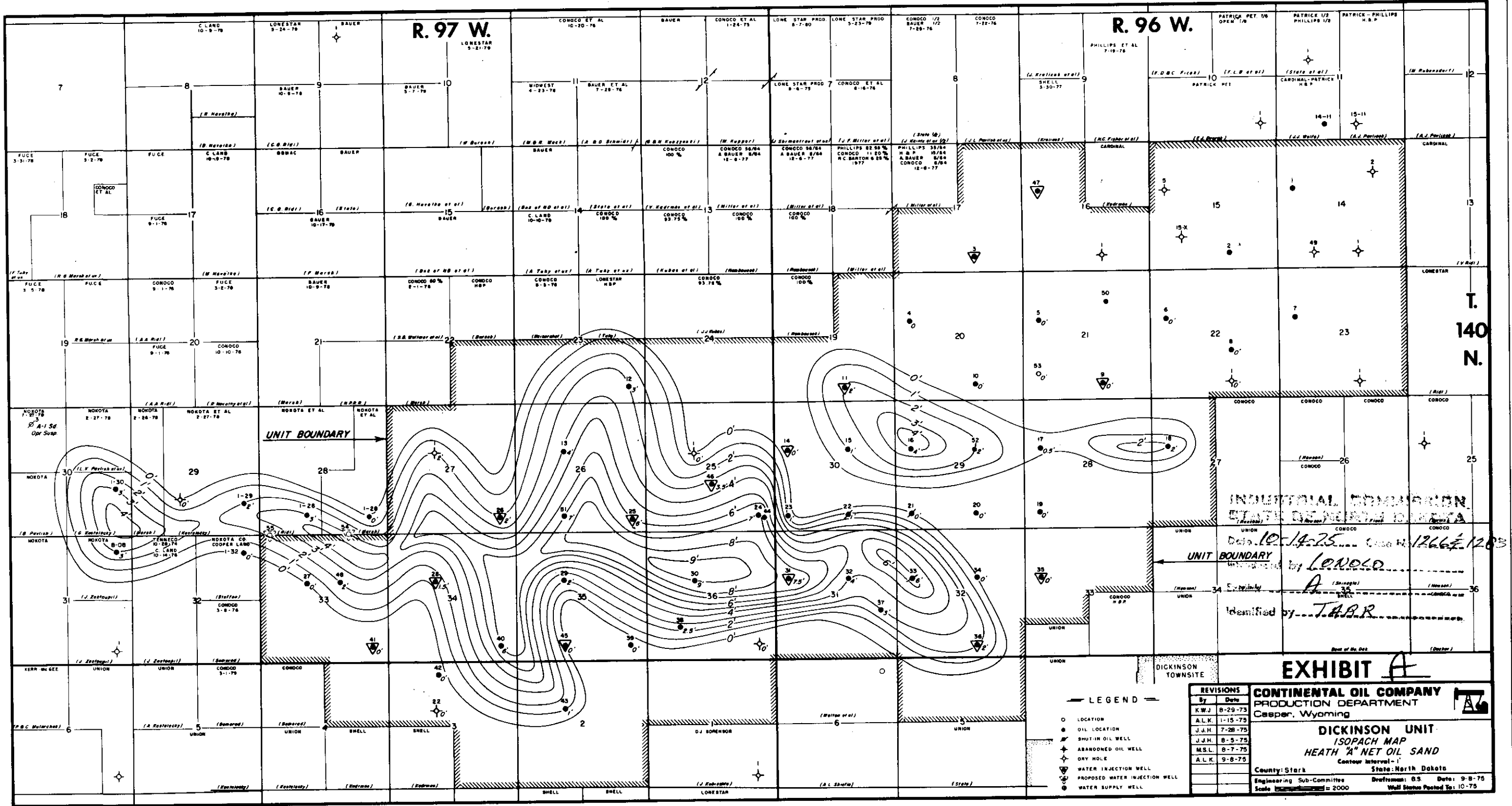
DONE, at Bismarck, North Dakota, this 13th day of November, 1975.

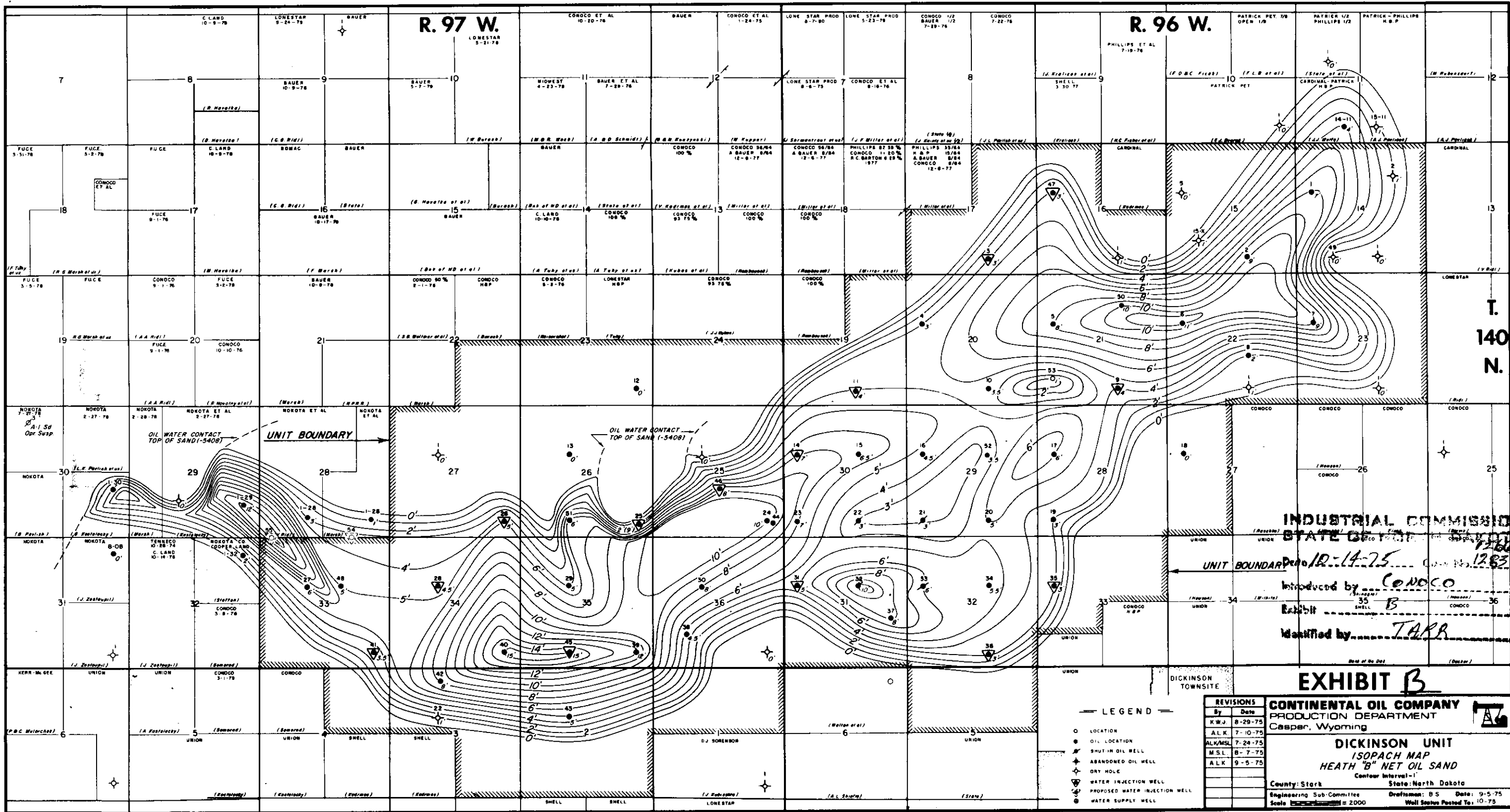
THE NORTH DAKOTA
INDUSTRIAL COMMISSION

/s/ Arthur A. Link
Arthur A. Link, Governor

/s/ Allen I. Olson
Allen I. Olson, Attorney General

/s/ Myron Just
Myron Just, Commissioner of Agriculture





R. 97 W.
LONESTAR
5-21-79

R. 96 W.

T. 140 N.

UNIT BOUNDARY

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

Date 10-14-75 Case No. 1265

Introduced by CONOCO

UNIT BOUNDARY

Identified by

EXHIBIT 1

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT
Casper, Wyoming

DICKINSON UNIT
CROSS SECTION INDEX

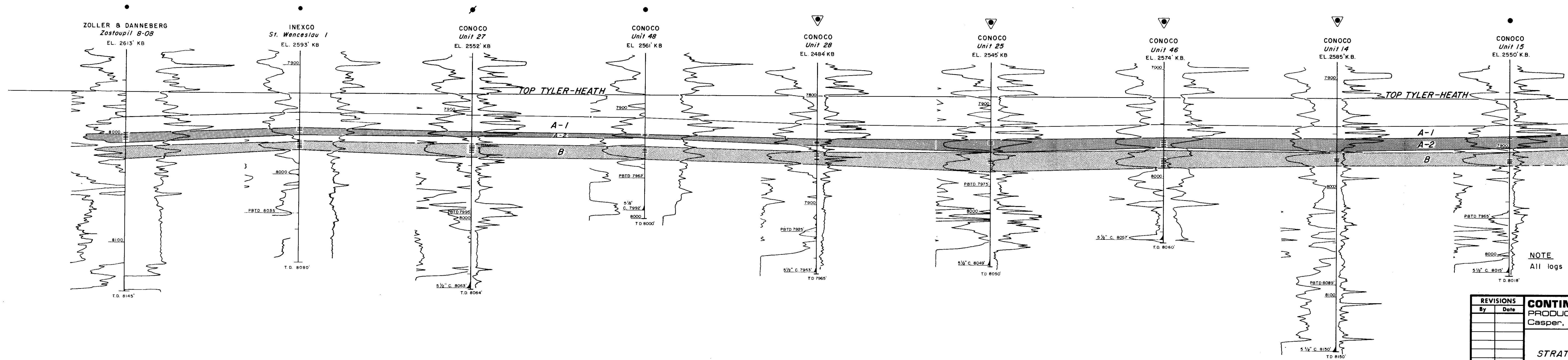
County: Stark State: North Dakota
Engineer: A.L. KUCHERA Draftsman: R.S. Date: 10-7-79
Scale: 1" = 2000' Well Status Posted To: 10-75

LEGEND

- LOCATION
- OIL LOCATION
- ✦ SHUT-IN OIL WELL
- ✦ ABANDONED OIL WELL
- ✦ DRY HOLE
- ▽ WATER INJECTION WELL
- ▽ PROPOSED WATER INJECTION WELL
- WATER SUPPLY WELL

A
SW

A'
NE



INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA
Date 10-14-75 Case No. 7383
Introduced by Conoco
Exhibit #2
Identified by

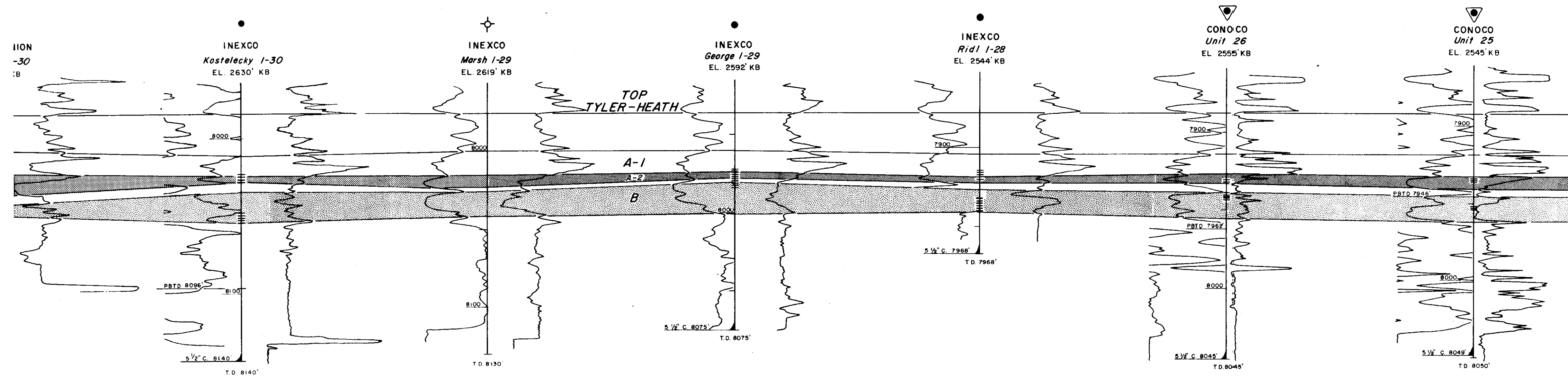
NOTE
All logs are resistivity logs

EXHIBIT 2

REVISIONS	
By	Date

CONTINENTAL OIL COMPANY	
PRODUCTION DEPARTMENT	
Casper, Wyoming	
DICKINSON UNIT	
STRATIGRAPHIC CROSS SECTION A-A'	
County: Stark	State: North Dakota
Engineer: A. L. Kuchera	Draftsman: B.S. Date: 1-21-75
Scale: Vert. 1" = 40', Horiz. No Scale	

B'
E



INDUSTRIAL EXAMINATION
10-14-73
L. A. L. O. C. A.
#2

NOTE
All logs are resistivity logs

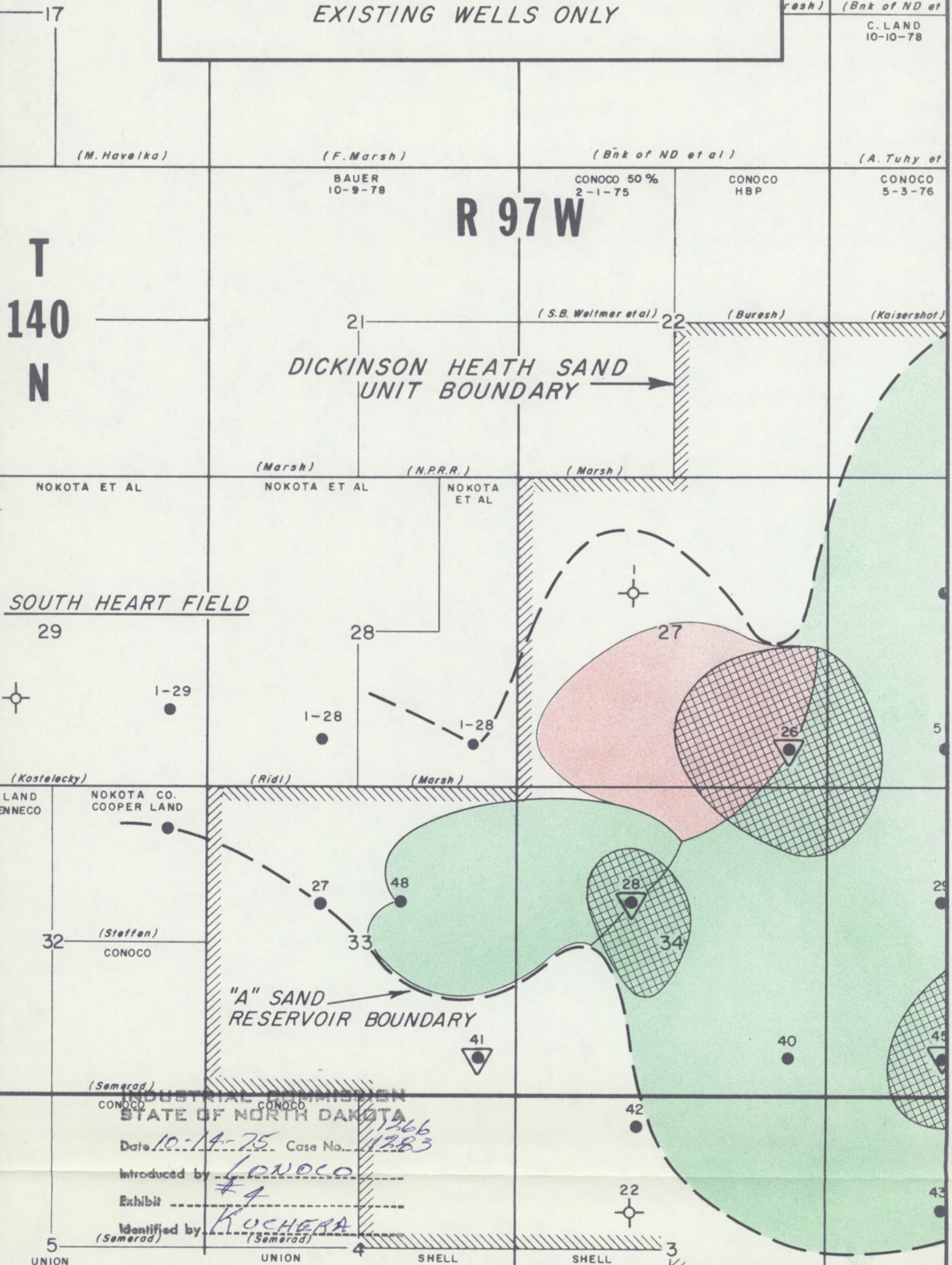
EXHIBIT 3

REVISIONS	
By	Date

CONTINENTAL OIL COMPANY	
PRODUCTION DEPARTMENT Casper, Wyoming	
DICKINSON UNIT	
STRATIGRAPHIC CROSS SECTION B-B'	
County: Stark	State: Wyoming
Engineer: A. L. Kuchera	Draftsman: B. S.
Scale: Vert. 1" = 40', Horiz. No Scale	Date: 1-21-75

WATERFLOOD PERFORMANCE PROJECTION

EXISTING WELLS ONLY



- LEGEND**
- Reservoir Area Drained By Unit Wells
 - Estimated Limits Of Present Waterflood Front
 - Oil swept out of unit when last producing well WOR=30
 - Location
 - Oil Well
 - + Dry Hole
 - Water Injection Well

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT
Casper, Wyoming

DICKINSON HEATH SAND UNIT

EXHIBIT 4—"A" SAND

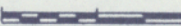
County: Stark

State: North Dakota

Engineer: A.L. Kuchera

Draftsman: B.S.

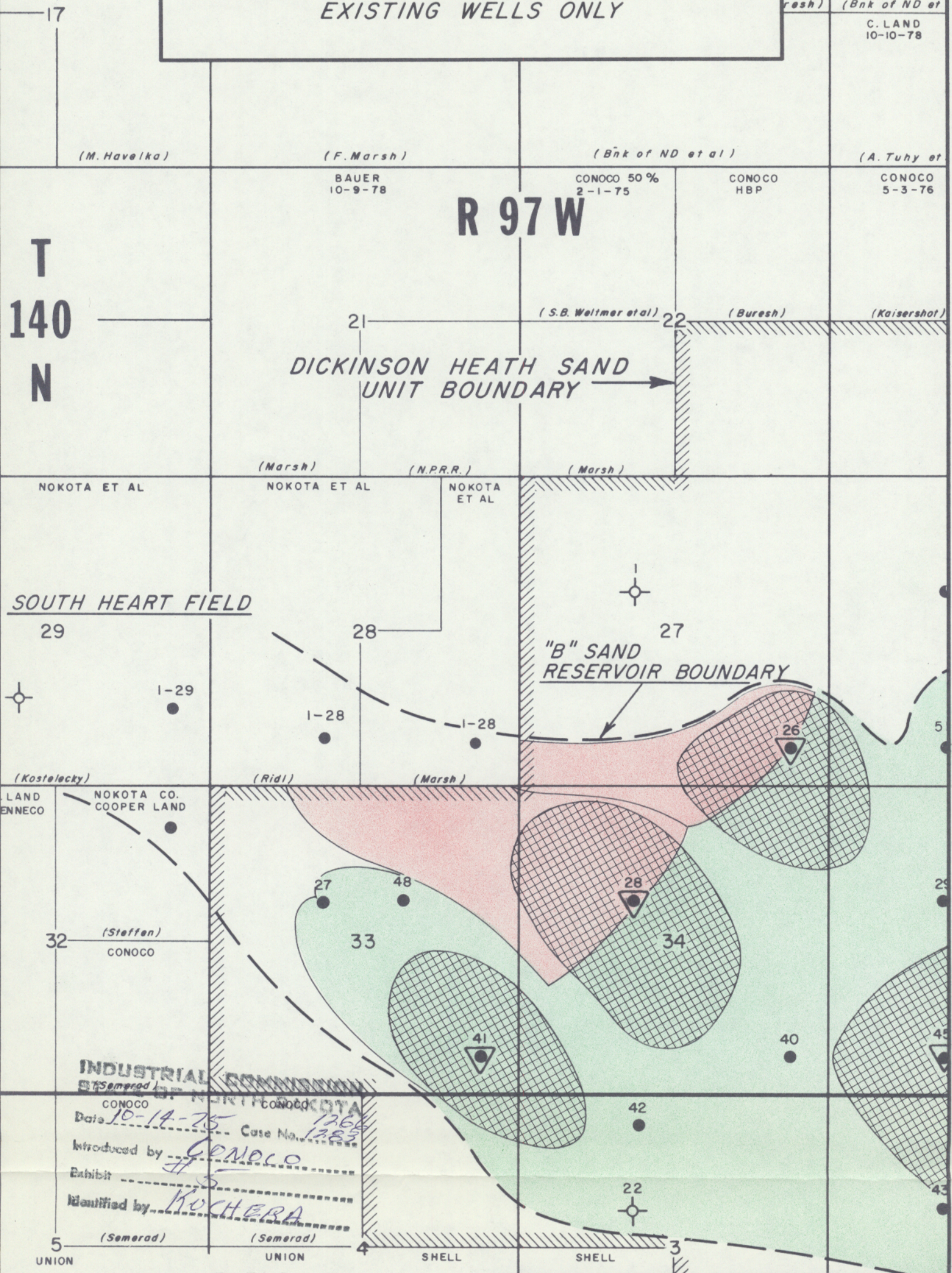
Date: 10-10-75

Scale  = 2000'

Well Status Posted To: 10-75

WATERFLOOD PERFORMANCE PROJECTION

EXISTING WELLS ONLY



WATERFLOOD PERFORMANCE PROJECTION

DHSU WELLS 54 & 55 ARE DRILLED
AS PRODUCERS

T
140
N

R 97 W

DICKINSON HEATH SAND
UNIT BOUNDARY

SOUTH HEART FIELD

"A" SAND
RESERVOIR BOUNDARY

STATE OF NORTH DAKOTA

Date..... Case No.....

Introduced by.....

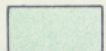
Exhibit.....

Identified by.....

(Semerad)

(Semerad)

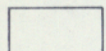
LEGEND



Reservoir Area Drained
By Unit Wells



Estimated Limits Of
Present Waterflood
Front



Oil swept out of unit when
last producing well WOR = 30

○ Location

● Oil Well

⊕ Dry Hole

▽ Water Injection Well

CONTINENTAL OIL COMPANY

PRODUCTION DEPARTMENT

Casper, Wyoming

DICKINSON HEATH SAND UNIT

EXHIBIT *b* — "A" SAND

County: Stark

State: North Dakota

Engineer: A.L. Kuchera

Draftsman: B.S.

Date: 10-10-75

Scale = 2000'

Well Status Posted To: 10-75

WATERFLOOD PERFORMANCE PROJECTION

DHSU WELLS 54 & 55 ARE DRILLED
AS PRODUCERS

T
140
N

R 97 W

DICKINSON HEATH SAND
UNIT BOUNDARY

SOUTH HEART FIELD

"B" SAND
RESERVOIR BOUNDARY

- LEGEND**
- Reservoir Area Drained By Unit Wells
 - Estimated Limits of Present Waterflood Front
 - Oil swept out of unit when last producing well WOR = 30
 - Location
 - Oil Well
 - Dry Hole
 - Water Injection Well

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT
Casper, Wyoming

DICKINSON HEATH SAND UNIT
EXHIBIT 7—"B" SAND

County: Stark

State: North Dakota

Engineer: A.L. Kuchera

Draftsman: B.S.

Date: 10-10-75

Scale = 2000'

Well Status Posted To: 10-75

WATERFLOOD PERFORMANCE PROJECTION

DHSU WELLS 54 & 55 ARE DRILLED AS LINE
WATER INJECTION WELLS.

T
140
N

R 97 W

DICKINSON HEATH SAND
UNIT BOUNDARY

SOUTH HEART FIELD

"A" SAND
RESERVOIR BOUNDARY

- LEGEND**
- Reservoir Area Drained By Unit Wells
 - Estimated Limits Of Waterflood Front When Last Well WOR Is 30
 - Reservoir Area Drained By South Heart Field
 - Location
 - Oil Well
 - Dry Hole
 - Water Injection Well

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT
Casper, Wyoming

DICKINSON HEATH SAND UNIT

EXHIBIT 8 — "A" SAND

County: Stark

State: North Dakota

Engineer: A.L. Kuchera

Draftsman: B.S.

Date: 10-10-75

Scale = 2000'

Well Status Posted To: 10-75

WATERFLOOD PERFORMANCE PROJECTION

DHSU WELLS 54 & 55 ARE DRILLED AS LINE
WATER INJECTION WELLS.

T
140
N

R 97 W

DICKINSON HEATH SAND
UNIT BOUNDARY

SOUTH HEART FIELD

"B" SAND
RESERVOIR BOUNDARY

- LEGEND**
- Reservoir Area Drained By Unit Wells
 - Estimated Limits Of Waterflood Front When Last Prod. Well WOR Is 30
 - Reservoir Area Drained By South Heart Field
 - Location
 - Oil Well
 - Dry Hole
 - Water Injection Well

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT
Casper, Wyoming

DICKINSON HEATH SAND UNIT

EXHIBIT 9—"B" SAND

County: Stark

State: North Dakota

Engineer: A.L. Kuchera

Draftsman: B.S.

Date: 10-10-75

Scale: 1" = 2000'

Well Status Posted To: 10-75

Field DICKINSON HEATH SAND UNIT No 48 Date 9-3-75

BOTTOM HOLE PRESSURE, PSIG

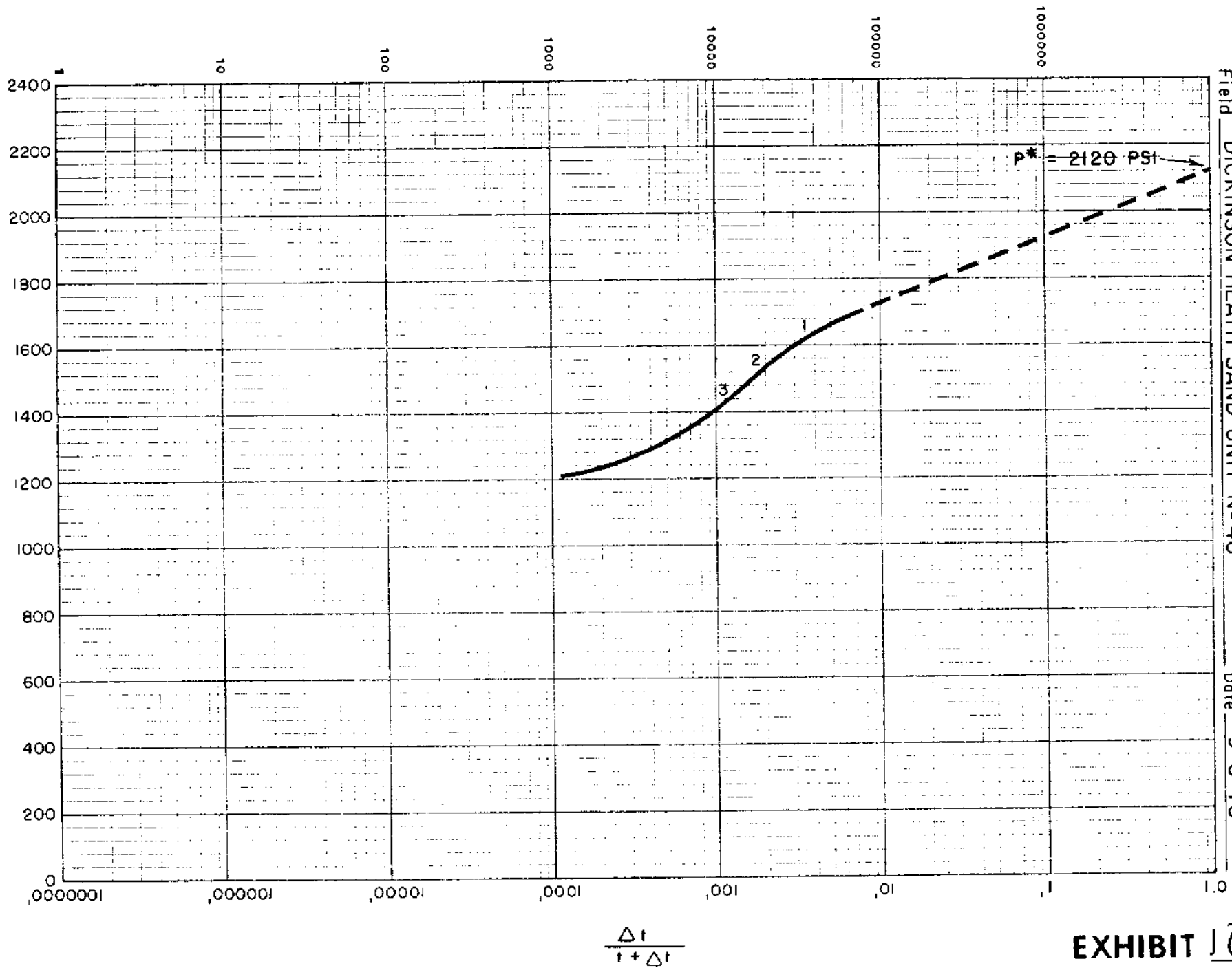
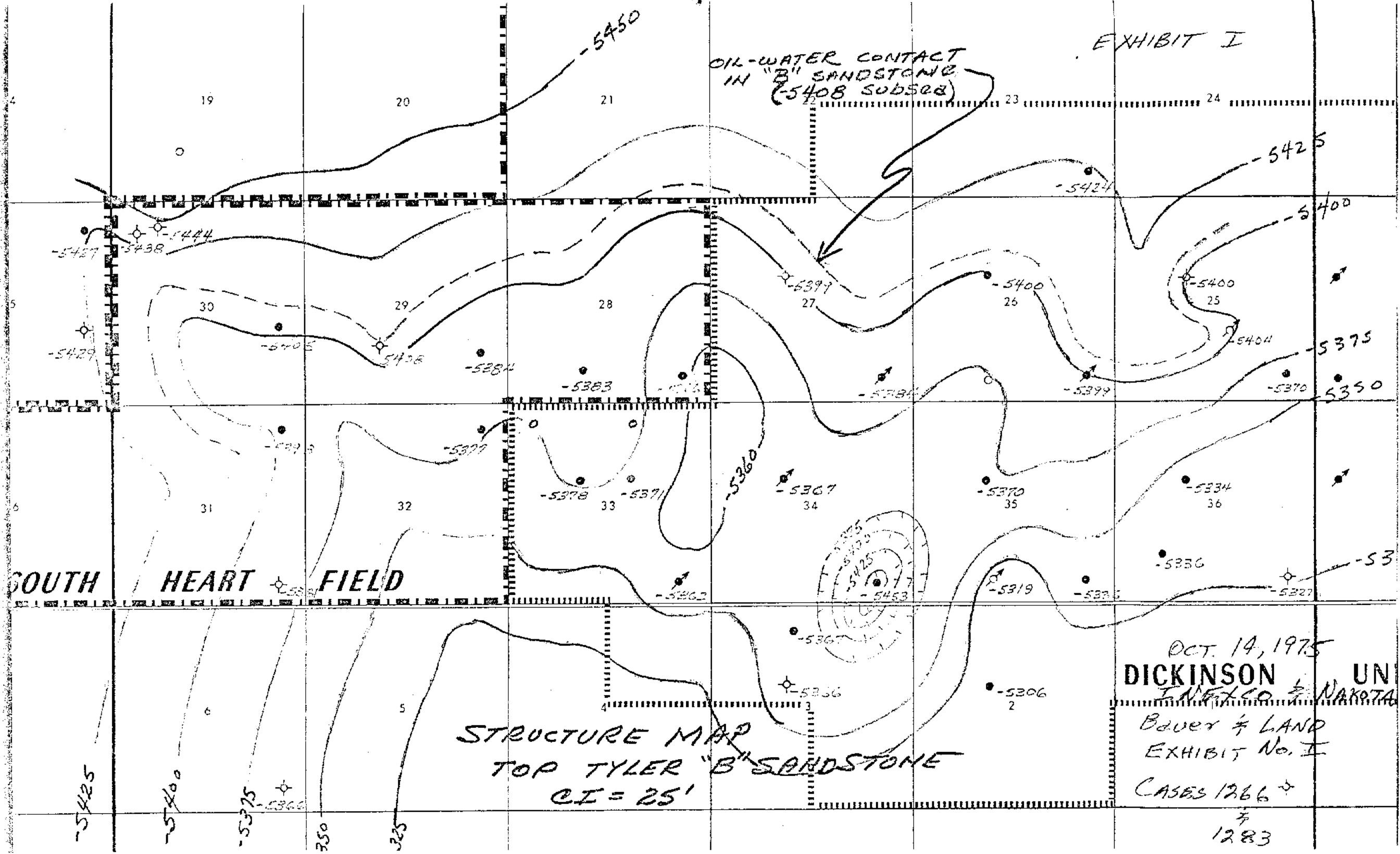


EXHIBIT 10

EXHIBIT I

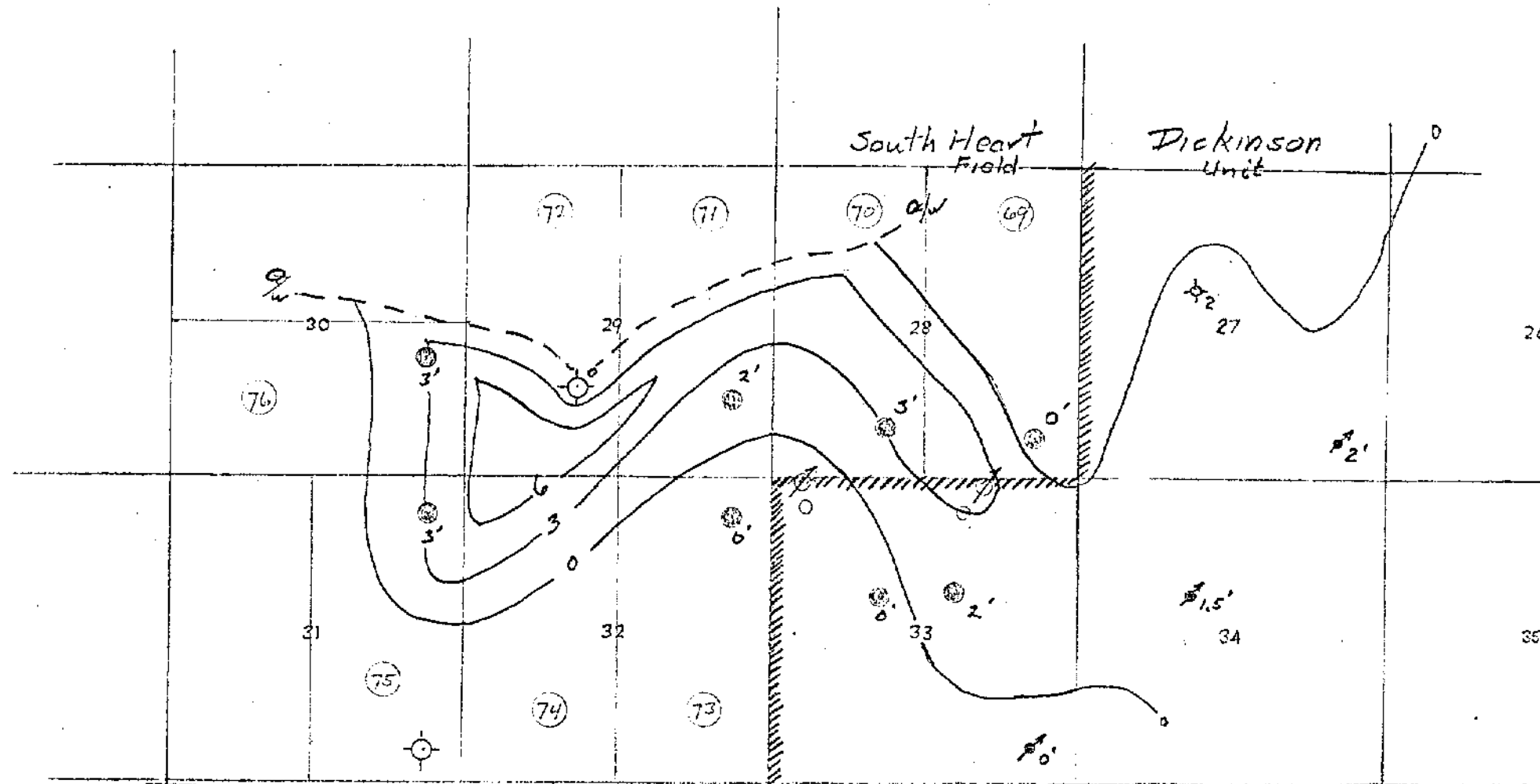


OIL-WATER CONTACT
IN "B" SANDSTONE
(-5408 SUBSOL)

SOUTH HEART FIELD

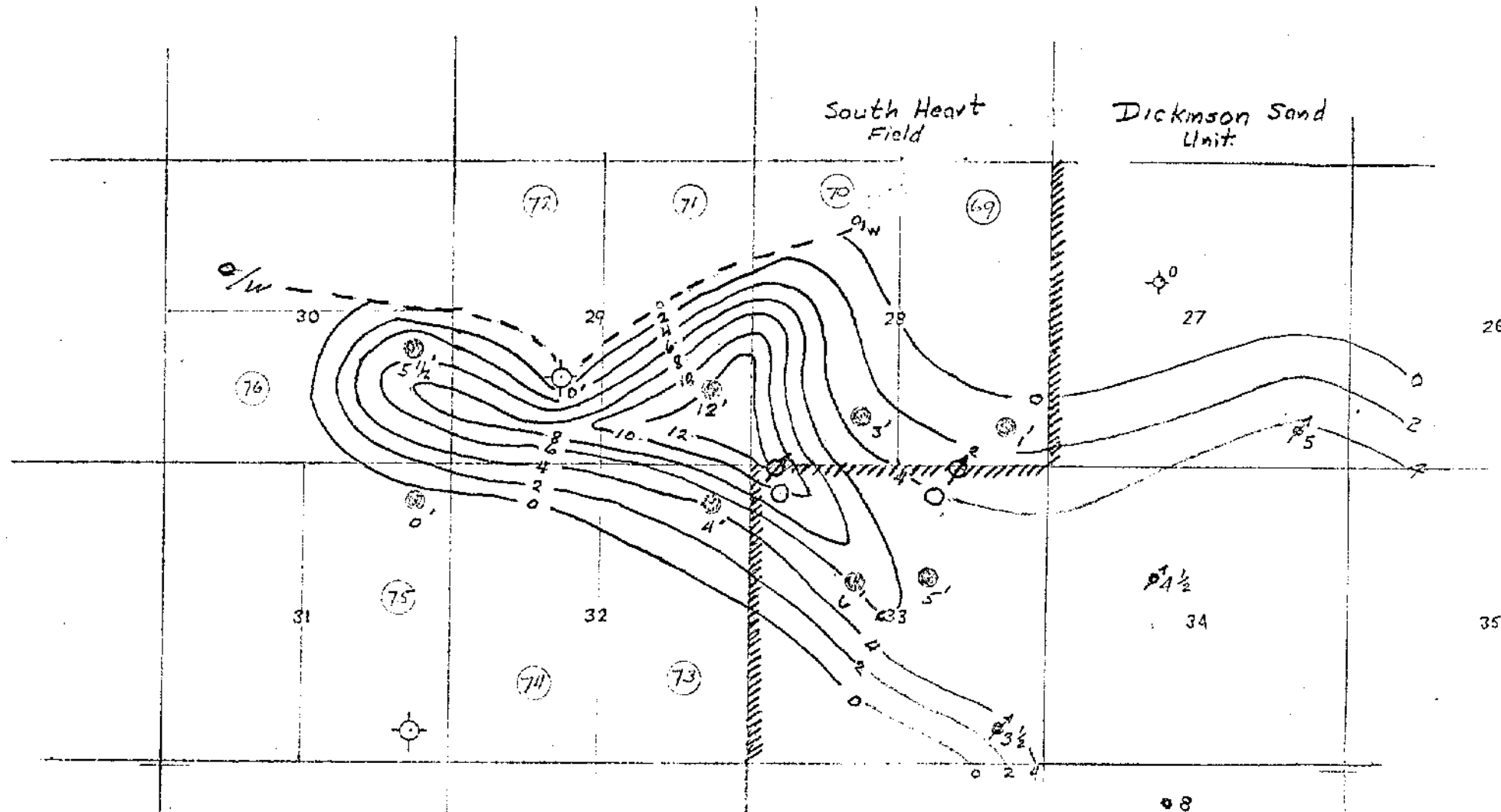
STRUCTURE MAP
TOP TYLER "B" SANDSTONE
CI = 25'

OCT. 14, 1975
DICKINSON UN
INDEXED & NAKOTA
Bauer & LAND
EXHIBIT No. I
CASES 1266 &
1283



South Heart
Isopach
Net "A" sand Pay
CI=3" 1"=1 mile

OCT 14, 1975
INEXCO & NAKOTA
BAUER & LAND
CASES #1266 & 1283



South Heart
ISOPACH
Net "B" Sand Pay
Bauer $\frac{1}{2}$ Land CI = 2'
CASES #1266 $\frac{1}{2}$ 9/22/75
1283
OCT. 14, 1975

LEASE PRODUCTION HISTORY

DHSU # 48
SWNE 33-140-97

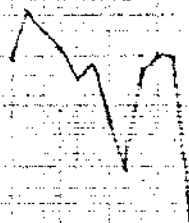
10,000

GROSS MONTHLY PRODUCTION

10,000 1,000 100

1000

OIL



Negligible Water Production

100

1973 1974 1975

LEASE DATA - 1266 & 1283

AMOUNT

PER DBL

ACCUMULATED PRODUCTION - WATER

BAUER & LAND

GROSS

EXHIBIT IV

PER ACRE

CASES 1266 & 1283

ESTIMATED OIL RESERVE - 26,000 BBL

OCT 14, 1975

GROSS

FUTURE

GROSS

ULTIMATE

NET

FUTURE

LEASE PRODUCTION HISTORY

DHSU # 27
SE NW 33-140-97

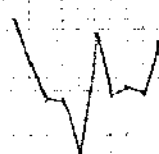
10,000

GROSS MONTHLY PRODUCTION

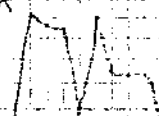
0 100 1,000 10,000 BARRILS

1000

OIL



WATER



100

1973

1974

1975

LEASE PERMIT NO. 140-97-20

AMOUNT

PER BBL

ACCUMULATED PRODUCTION BARRILS

GROSS

PER ACRE

ESTIMATED OIL REMAINS - BARRILS

GROSS
FUTURE

GROSS
ULTIMATE

NET
FUTURE

LEASE PRODUCTION HISTORY

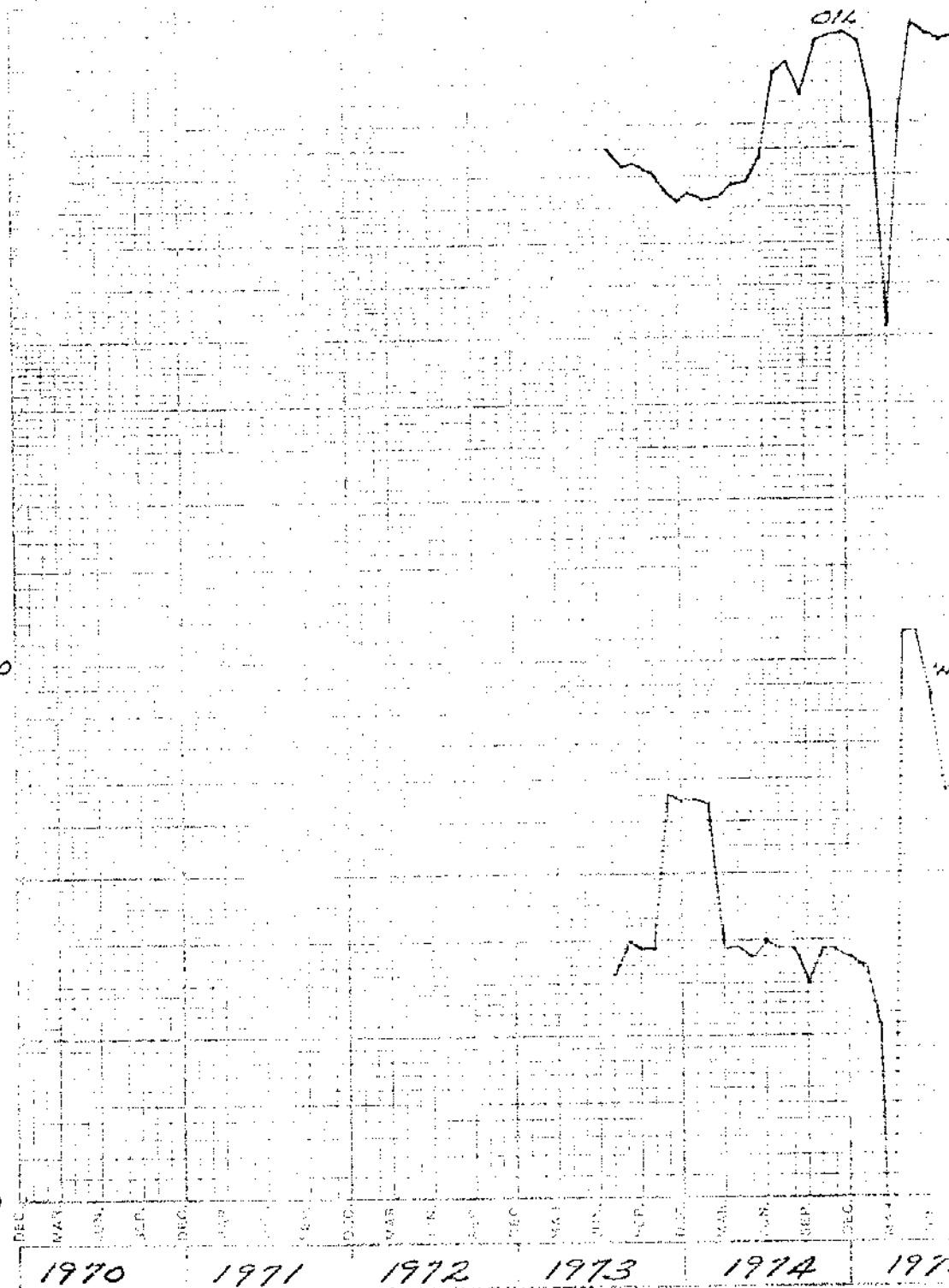
10,000

DHSU #12
SE SE 23-140-97

1000

100

10



LEASE PLANS SHOWING COSTS - 1974-1975

AMOUNT

PER BBL

ACCUMULATED PRODUCTION - 1974-1975

GROSS

PER ACRE

ESTIMATED OIL PRODUCTION - 1974-1975

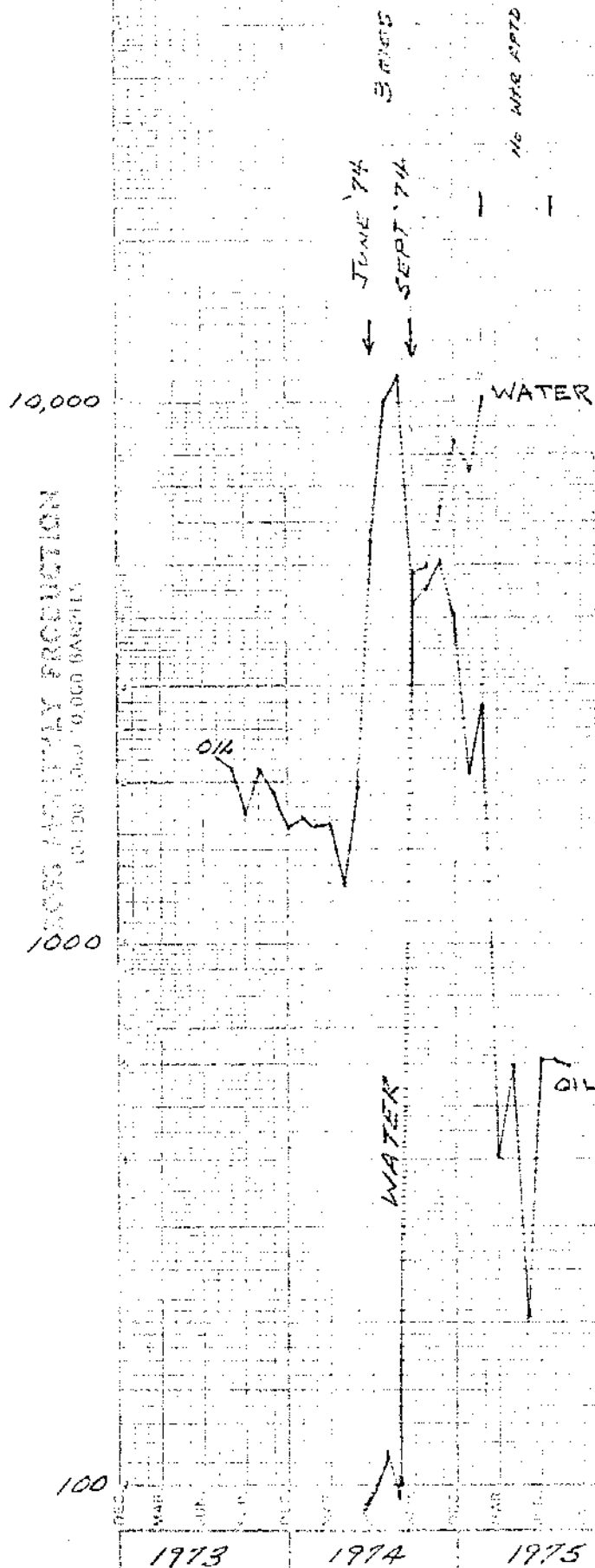
GROSS
FUTURE

GROSS
ULTIMATE

NET
FUTURE

LEASE PRODUCTION HISTORY

DHSU # 15
SW NE 30-140-96



LEASE PRIME 100 TO 1000 BBL PER ACRE

AMOUNT	
PER ACRE	
ACCUMULATED PRODUCTION - BARRELS	
GROSS	
PER ACRE	
ESTIMATED FUTURE PRODUCTION - BARRELS PER ACRE	
GROSS FUTURE	
GROSS ULTIMATE	
BY FUTURE	

LEASE PRODUCTION HISTORY

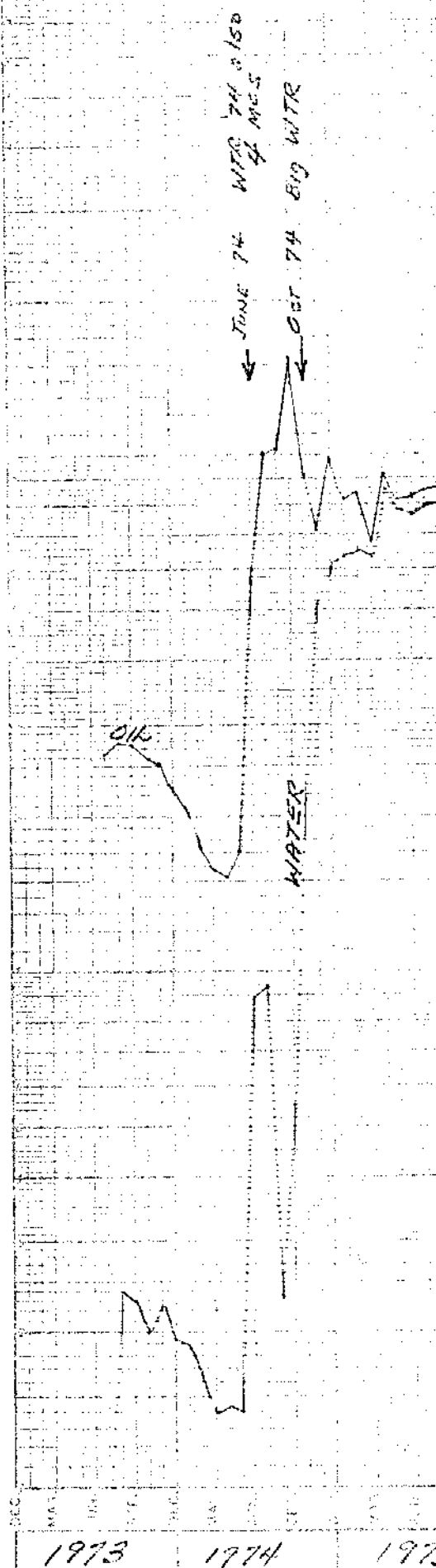
DHSU #23
SWSW 30-140-96

10,000

GROSS MONTHLY PRODUCTION
TO 100,000,000 BARRELS

1000

100



LEASE FROM 12/1/73 TO 12/31/75

AMOUNT

PER ACRE

ACCUMULATED PRODUCTION 32,000

GROSS

PER ACRE

ESTIMATED GROSS PRODUCTION 32,000

GROSS
FUTURE

GROSS
ULTIMATE

NET
FUTURE

PRODUCING
WELLS

LEASE PRODUCTION HISTORY

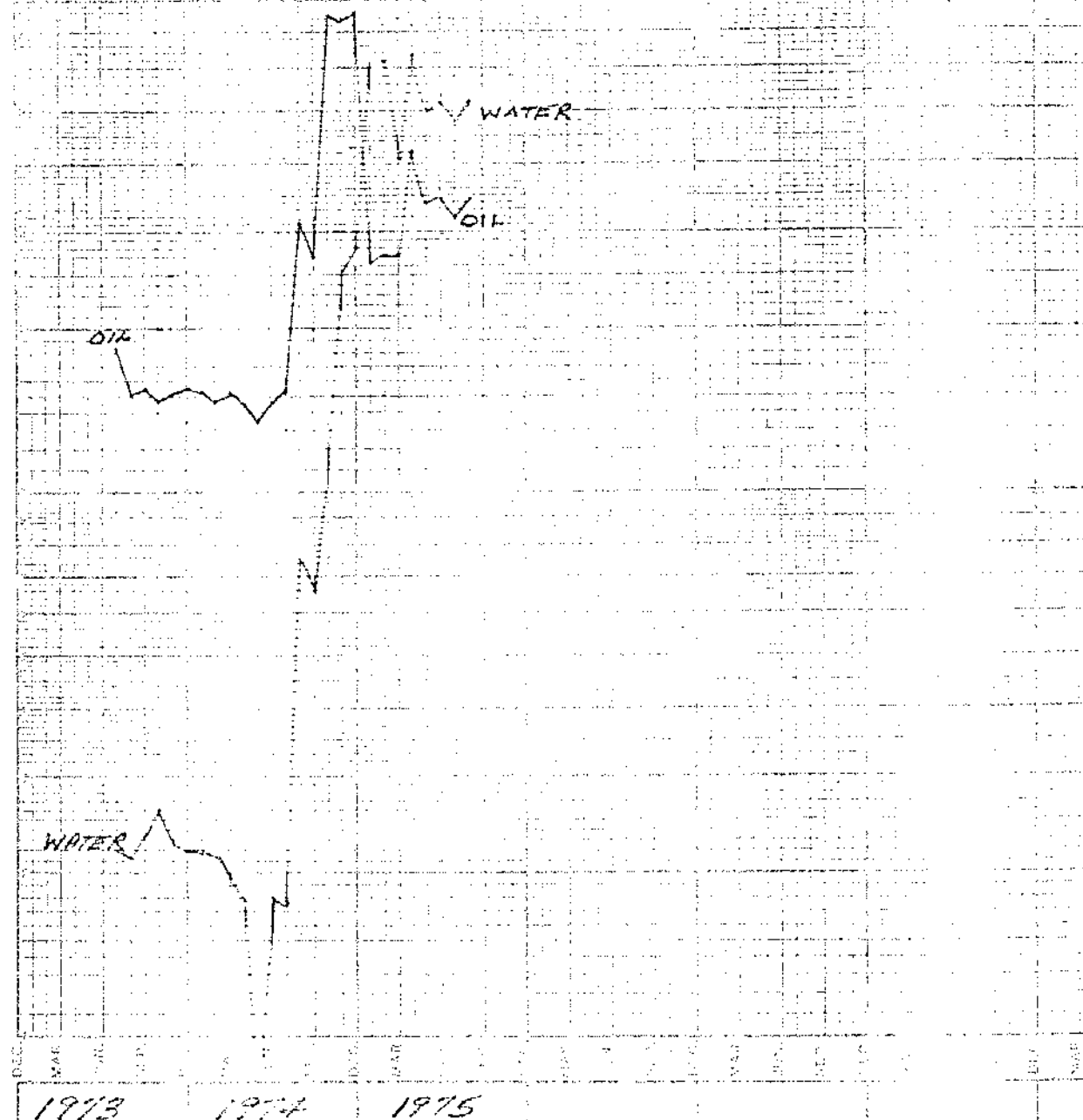
DHSU #24
SE SE 25-140-97

JULY '74
← JULY '74
← JULY '74

10,000

1000 MONTHLY PRODUCTION
10 100 1,000 10,000 BARRELS

1000



100

AMOUNT

PER OIL

ACCUMULATED PRODUCTION TO DATE

GROSS

PER ACRE

ESTIMATED OIL REMOVED TO DATE

GROSS

FUTURE

GROSS

ULTIMATE

NET

FUTURE

LEASE PRODUCTION HISTORY

DHSU #39
SE NW 35-140-37

05/01/78

10,000

GROSS MONTHLY PRODUCTION
10 TO 1,000-10,000 BARRELS

1000

OIL

WATER

100

DEC 1973 JAN 1974 FEB 1974 MAR 1974 APR 1974 MAY 1974 JUN 1974 JUL 1974 AUG 1974 SEP 1974 OCT 1974 NOV 1974 DEC 1974

1973 1974 1975

LEASE 140-37 SE NW 35-140-37

AMOUNT

PER BARREL

ACUMULATED PRODUCTION

GROSS

PER ACRE

ESTIMATED PRODUCTION

GROSS

FUTURE

GROSS

ULTIMATE

NOT

APPROXIMATE

PRODUCING
WELLS

LEASE PRODUCTION HISTORY

DHSU #38
C 500 36-140-97

10,000

GROSS MONTHLY PRODUCTION
10 100 1,000 10,000 BARRELS

1000

OIL

11 MMS

JUNE 74

APRIL 75 WTR

WATER

100

2,100

1973

1974

1975

LEASE DATA - OIL & GAS - ALL DATA

AMOUNT

PER EBL

ACCUMULATED PRODUCTION - OIL & GAS

GROSS

PER ACRE

ESTIMATE OF OIL & GAS - 100% - AS OF

GROSS
FUTURE

GROSS
CURRENT

NET
FUTURE

LEASE PRODUCTION HISTORY

DHSL#39
SE SE 35-140-97

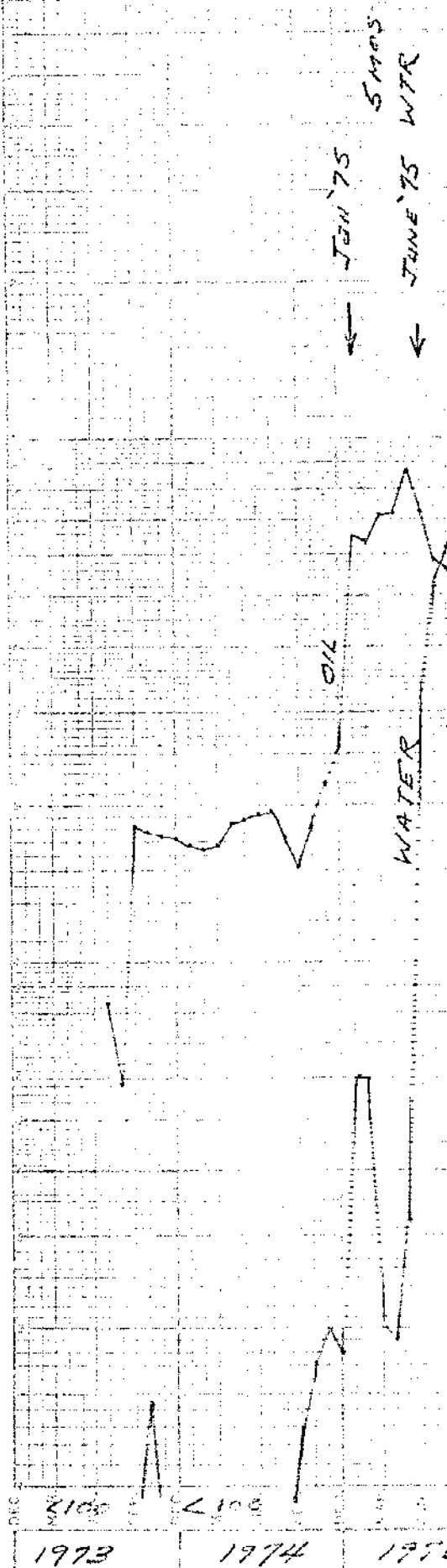
10,000

MONTHLY PRODUCTION

0 TO 10,000 BARRELS

1,000

100



LEASE DEED AC 4.0000 GROSS OIL - CONTAINING

AMOUNT

PER BARREL

ACCUMULATED PRODUCTION - BARRELS

GROSS

PER ACRE

ESTIMATES OF PRODUCTION - BARRELS - 27

GROSS FUTURE

GROSS ULTIMATE

NET FUTURE

PRODUCING
WELLS

LEASE PRODUCTION HISTORY

DH30 #40
SE SE 34-140-97

MARCH 1975

10,000

MONTHLY PRODUCTION
IN 100 LBS TO 10,000 LBS

1000

100

DEC

JAN

FEB

MAR

APR

MAY

JUN

JUL

AUG

SEP

OCT

NOV

DEC

JAN

FEB

MAR

APR

MAY

JUN

JUL

AUG

SEP

OCT

NOV

DEC

JAN

FEB

1973

1974

1975

AMOUNT

PER BBL

ACUMULATED

GROSS

PER ACPE

ESTIMATE

GROSS

PER BBL

ESTIMATE

PER ACPE

ESTIMATE

PER BBL

PRODUCING
WELLS

LEASE PRODUCTION HISTORY

DHSU #42
NE NW 3-139-97

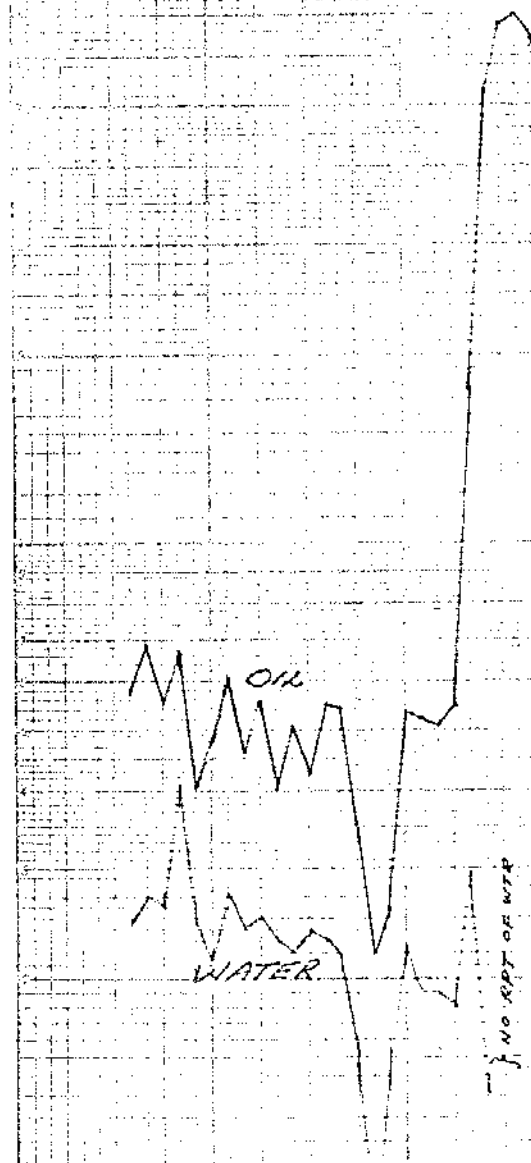
10,000

1000 MONTHLY PRODUCTION
10-100 1,000-10,000 BARRELS
1000

MARCH '75



100



NO RPT OF WTR

1973 1974 1975

AMOUNT

PER BBL

ACCUMULATED PRODUCTION

GAOS

PER / CPE

ESTIMATED OR ASSUMED FUTURE

GAOS
FUTURE

GAOS
ULTIMATE

GAOS
FUTURE

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 1266
(CONTINUED)
ORDER NO. 1381

IN THE MATTER OF A HEARING CALLED ON A
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DICKINSON FIELDS, STARK COUNTY, NORTH
DAKOTA.

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:30 a.m.
on the 9th day of September, 1975, in Bismarck, North Dakota, before
the Industrial Commission of North Dakota, hereinafter referred to as the
"Commission."

NOW, on this 15th day of October, 1975, 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 this cause and the subject matter thereof.

(2) That the applicant requested this case be continued to the October
14, 1975, hearing.

IT IS THEREFORE ORDERED:

(1) That this case be, and is hereby continued to the October 14,
1975, hearing.

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

DONE, in Bismarck, North Dakota, this 15th day of October, 1975.

THE NORTH DAKOTA
INDUSTRIAL COMMISSION

Arthur A. Link, Governor

/s/ Allen I. Olson
Allen I. Olson, Attorney General

/s/ Myron Just
Myron Just, Commissioner of Agriculture

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 1266
ORDER NO. 1366

IN THE MATTER OF A HEARING CALLED ON A
MOTION OF THE COMMISSION TO CONSIDER THE
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DICKINSON FIELDS, STARK COUNTY, NORTH
DAKOTA.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause having been continued from the 31st of July, 1975, came on
for hearing at 9:30 a.m. on the 12th day of August, 1975, at Bismarck,
North Dakota, before the Industrial Commission of North Dakota, hereinafter
referred to as the "Commission."

NOW, on this 9th day of September, 1975, the Commission, a quorum
being present, having considered the testimony adduced at said hearing,
and being fully advised in the premises,

FINDS:

(1) That the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant requested that this case be continued until
September 9, 1975, and attorney for the Continental Oil Company concurred.

IT IS THEREFORE ORDERED:

(1) That this case be, and is hereby continued to the 9th day of
September, 1975.

DONE, at Bismarck, North Dakota, this 9th day of September, 1975.

THE NORTH DAKOTA
INDUSTRIAL COMMISSION

Arthur A. Link, Governor

/s/ Allen I. Olson
Allen I. Olson, Attorney General

/s/ Myron Just
Myron Just, Commissioner of Agriculture

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 1266
ORDER NO. 1365

IN THE MATTER OF A HEARING CALLED ON A
MOTION OF THE COMMISSION TO CONSIDER THE
APPLICATION OF BAUER AND LAND FOR AN
ORDER SUSPENDING A PERMIT TO DRILL ISSUED
TO CONTINENTAL OIL COMPANY FOR A WELL
LOCATED IN THE NW NW OF SECTION 33,
TOWNSHIP 140 NORTH, RANGE 97 WEST, STARK
COUNTY, NORTH DAKOTA, AND TO REVIEW AND
CONSIDER AMENDING THE SPACING
REQUIREMENTS FOR THE SOUTH HEART AND
DICKINSON FIELDS, STARK COUNTY, NORTH
DAKOTA.

EMERGENCY ORDER OF THE COMMISSION

BY THE COMMISSION:

An application having been presented to the Industrial Commission of North Dakota, hereinafter referred to as the "Commission," for an emergency order under Rule No. 3 of the General Rules and Regulations.

NOW, on this 18th day of July, 1975, the Commission, a quorum being present, having considered the testimony adduced and being fully advised in the premises,

FINDS:

(1) That the Commission has jurisdiction of this application and the subject matter thereof.

(2) That on the 14th of July, 1975, the North Dakota Geological Survey issued Permit No. 5678 to Continental Oil Company for a well to be drilled 500 feet from the north line and 500 feet from the west line of Section 33, Township 140 North, Range 97 West, Stark County, North Dakota, and that said location is within the outline of the Dickinson Heath Unit, as defined by Commission Order No. 1186.

(3) That Commission Order No. 1202 dated March 13, 1973, authorized the drilling of wells at any location within the Dickinson Heath Unit area and further provided that no well be located closer than 500 feet from the Unit boundary.

(4) That during the period since Commission Order No. 1202 was approved, the South Heart Field has been established adjacent to the Dickinson Heath Unit boundary.

(5) That information gained from the drilling of wells in the South Heart Field indicates that allowing the Unit Operator of the Dickinson Heath Unit to drill a well in the NW NW of Section 33, Township 140 North, Range 97 West, Stark County, North Dakota, might not be in the interest of

conservation, could constitute waste by the drilling of unnecessary wells, and might not protect correlative rights of all interested parties.

IT IS THEREFORE ORDERED:

(1) That Permit No. 5678 issued to Continental Oil Company for a well located in the NW NW of Section 33, Township 140 North, Range 97 West, Stark County, North Dakota, be and the same, is hereby suspended.

(2) That Bauer and Land, the applicant, appear before the Commission at 4:00 p.m. on July 31, 1975, in Bismarck, North Dakota, and present evidence in support of their application.

(3) That this order shall continue in force for a period not to exceed 15 days from the date of this order.

DONE, at Bismarck, North Dakota, this 18th day of July, 1975.

THE NORTH DAKOTA
INDUSTRIAL COMMISSION

Arthur A. Link, Governor

/s/ Allen I. Olson
Allen I. Olson, Attorney General

/s/ Myron Just
Myron Just, Commissioner of Agriculture

1283

LAW OFFICES OF
FLECK, MATHER, STRUTZ & MAYER, LTD.
SUITE 200 PROFESSIONAL BUILDING
P. O. BOX 1436
BISMARCK, NORTH DAKOTA 58501

ERNEST R. FLECK
RUSSELL R. MATHER
WILLIAM A. STRUTZ
THOMAS A. MAYER
WARREN H. ALBRECHT, JR.

TELEPHONE
701-223-6585

September 22, 1975

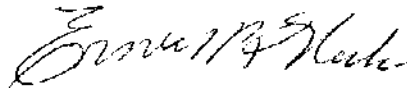
Mr. Gerald VandeWalle
First Assistant Attorney General
State Capitol Building
Bismarck, North Dakota 58505

Dear Mr. VandeWalle:

In re Continental Oil Company
Our File No. 11818

We enclose herewith Application for the above captioned company.
We trust that the matter can be set for hearing before the
Industrial Commission.

Very truly yours,



ERNEST R. FLECK

bs

Enclosure

cc Dr. A. E. Noble w/Enclosure

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

IN THE MATTER OF THE APPLICATION)
OF CONTINENTAL OIL COMPANY FOR)
AN ORDER PERMITTING THE DRILLING)
OF CERTAIN INJECTION WELLS ALONG)
THE DICKINSON HEATH SAND UNIT)
BOUNDARY IN STARK COUNTY, NORTH)
DAKOTA.)

A P P L I C A T I O N

COMES NOW the Applicant, Continental Oil Company, and
respectfully alleges:

I.

That Continental Oil Company, a Delaware corporation, authorized to do business in the State of North Dakota, is the Unit Operator for the Dickinson Heath Sand Unit, Stark County, North Dakota.

II.

That Commission Order 1202 approved a statutory type Unit and established administrative procedures and special operating rules for the Dickinson Heath Sand Unit lands on March 13, 1973.

III.

That the unitized lands are being waterflooded successfully. The injected water increases the pressure in the reservoir sands and forces oil to move to low pressure points in the reservoir which are the producing wells.

IV.

That on the west end of the Unit the reservoir pressure has increased at Well No. 27 because of water injection. In time this increased pressure will force oil to migrate further to the west and off of the unitized lands.

V.

That the entire Heath Sand reservoir was not included in the Dickinson Heath Sand Unit as a result of lack of information. Present

1
2 information indicates the oil saturated Heath sands extended beyond the
3 areas mapped by the Dickinson Heath Sand Unit Engineering Committee.

4 VI.

5 That Article I, Paragraph 1.7 of Part II of the Plan of Uni-
6 tization for the Dickinson Heath Sand Unit and the stated and implied
7 covenants of the underlying leases require the Unit Operator to pro-
8 tect the Unit Area from drainage by offset operators.

9 VII.

10 That because of the secondary recovery operations through
11 waterflooding and the resulting increase in reservoir pressures, oil
12 cannot migrate onto the unitized lands but, in fact, can only migrate
13 off of unitized lands.

14 VIII.

15 That lands immediately outside the Dickinson Heath Sand Unit
16 have been, or are, subject to Commission Orders 1218, 1224, 1260, 1262,
17 1264, 1301, 1302, and perhaps others.

18 IX.

19 That by Commission Order 1365, Continental Oil Company, the
20 Unit Operator, was prevented from drilling a well inside the Unit
21 boundary, as authorized by Order 1202, which well was located to pro-
22 tect the Unit from drainage by wells directly offsetting the Unit
23 boundary.

24 X.

25 That subsequent to issuance of Commission Order 1365, two
26 meetings between representatives of the Unit Operator and the working
27 interest owners of leases to the west of the Unit were held in
28 Denver on August 19 and September 10, 1975. At the meetings there
29 were discussions concerning expansion of the Unit Area or methods
30 of protecting the Unit Area from migration of oil from the unitized
31 lands.

32 XI.

33 That at the two meetings of the working interest owners,
34 information was exchanged on the reservoir volumes, reserves, current
35

1
2 rates of production and other items. The information exchanged in-
3 dicated that by using the existing Dickinson Heath Sand Unit unitiza-
4 tion formula, the lands outside the Unit Area might not receive their
5 equitable share of Unit participation. Hence, an immediate Unit
6 expansion to the west does not appear to be a solution to the current
7 problem of oil migration.

8 XII.

9 At the second meeting it was tentatively agreed that two
10 injection wells should be located along the north boundary of the
11 Unit in Section 33, Township 140 North, Range 97 West. The wells
12 would be located approximately 400 feet from the west line and 10 feet
13 from the north line; and 3640 feet from the west line and 10 feet from
14 the north line of Section 33, Township 140 North, Range 97 West. The
15 two wells would effectively halt migration of oil from the Unit Area.
16 They will be beneficial in recovering oil by waterflooding which would
17 otherwise remain unrecoverable on the lands outside the Unit boundary.

18 XIII.

19 That the major working interest owners outside the western
20 part of the Unit Area will consider forming a new Unit (South Hart
21 Unit) to include the productive lands outside the Dickinson Heath Sand
22 Unit Area and joining in the drilling of the above two injection wells.
23 In return, Unit Operator will attempt to negotiate a lease line
24 injection agreement, a water sales agreement for pressured water to be
25 injected on other parts of South Hart Unit, and attempt to negotiate
26 a produced water disposal agreement whereby the Dickinson Heath Sand
27 Unit would dispose of produced South Hart Unit water. The above agree-
28 ments will be dependent upon the approval of the working interest
29 owners in the two areas.

30 XIV.

31 Wherefore, to avoid subsurface waste, and to maximize the
32 efficient recovery of oil from the two producing areas, Continental
33 Oil Company, as Unit Operator of the Dickinson Heath Sand Unit, re-
34 spectfully requests that the North Dakota Industrial Commission
35
36

1 authorize the State Geologist to issue permits for two line injection
2 wells at the approximate location stated above. The water injection
3 rates into the two wells will be at rates agreed to by the Operators
4 as conditions require, but initially will not exceed the combined pro-
5 duction rates from wells presently located in Sections 27, 28, 32, and
6 33, Township 140 North, Range 97 West, Stark County, North Dakota.
7

8 Dated this 22nd day of September, 1975.

9 CONTINENTAL OIL COMPANY

10 FLECK, MATHER, STRUTZ & MAYER, Ltd.
11 Attorneys for the Applicant
12 Suite 200, Professional Bldg.
13 P.O. Box 1436
14 Bismarck, ND 58501

Ernest R. Fleck

14 STATE OF NORTH DAKOTA)
15) ss
16 COUNTY OF BURLEIGH)

16 ERNEST R. FLECK, being first duly sworn on oath, deposes and
17 says that he is the attorney for the Applicant herein named, that he
18 has read the above and foregoing Application, knows the contents
19 thereof and is within the knowledge of the affiant, and that the same
20 is true to the best of his knowledge, information and belief.
21

Ernest R. Fleck
22 ERNEST R. FLECK
23

24
25 Subscribed and sworn to before me this 22nd day of September, 1975.

Carol Solberg
26 Carol Solberg, Notary Public
27 Burleigh County, North Dakota
28 My Commission Expires: 6-25-81
29
30
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