

BEFORE THE INDUSTRIAL COMMISSION

OF THE STATE OF NORTH DAKOTA

CASE NO. 6080
ORDER NO. 7043

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF SAMEDAN OIL CORPORATION FOR AN ORDER PURSUANT TO SECTION 43-02-03-88.1 OF THE NORTH DAKOTA ADMINISTRATIVE CODE ALLOWING THE COMMINGLING OF HYDROCARBONS PRODUCED FROM THE SADLER-BAKKEN AND SADLER-MADISON POOLS IN THE WELLBORE OF THE CAMP DAVIS STATE #1-16 WELL, LOCATED IN THE SW NW OF SECTION 16, T.161N., R.95W., DIVIDE COUNTY, NORTH DAKOTA.

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:00 a.m. on the 24th day of May, 1995, in Bismarck, North Dakota, before an examiner appointed by the Industrial Commission of North Dakota, hereinafter referred to as the "Commission."

NOW, on this 1st day of June, 1995, the Director, on behalf of the Commission as authorized by the Commission, 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 pursuant to North Dakota Administrative Code Section 43-02-03-88.1 the Director is authorized to sign on behalf of the Commission orders relating to, inter alia, commingling in one wellbore the fluids from two or more pools under Section 43-02-03-42.

(3) That Samedan Oil Corporation is desirous of commingling production from the Sadler-Bakken and Madison Pools in the wellbore of its Camp Davis State #1-16 well, located in the SW NW of Section 16, Township 161 North, Range 95 West, Divide County, North Dakota.

(4) That the Bakken and Madison Pools in the Camp Davis State #1-16 well have identical spacing units.

(5) That if this application is granted, additional oil will be recovered by said well.

(6) That production allocation would be based upon the differences in chemical composition of oil from each respective pool.

(7) That the commingling of production from said pools in the Camp Davis State #1-16 well will recover oil that might not otherwise be produced and will protect correlative rights.

(8) That in order to prevent waste and protect correlative rights this case should be granted with provisions.

IT IS THEREFORE ORDERED:

(1) That Samedan Oil Corporation, its assigns and successors, is hereby permitted to commingle production in the wellbore from the Sadler-Bakken and Madison Pools in its Camp Davis State #1-16 well, located in the SW NW of Section 16, Township 161 North, Range 95 West, Divide County, North Dakota.

(2) That approval in (1) above is contingent upon the following provisions:

- (a) That the operator submit a Sundry Notice, Form 4, to the Oil and Gas Division prior to commingling, describing the proposed procedures for conversion to commingling.
- (b) That the allocation of oil to respective pools shall be by a chemical fingerprint analysis method approved by the Director.
- (c) That a chemical fingerprint analysis, of a representative sample of the commingled oil, be performed at regular intervals as approved by the Director.
- (d) That a copy of the chemical fingerprint analysis be submitted to the Oil and Gas Division within thirty (30) days of the test date.
- (e) That the results of all allocation tests required by the Director shall be reported to the Oil and Gas Division within thirty (30) days of the test date.

(3) That any authorization for commingling of production granted under the provisions of this order is contingent upon full compliance with the terms and conditions approved by the Director to insure proper allocation of production from the respective pools authorized to be commingled. Such authorization may be immediately revoked or rescinded by the Director upon a determination by the Director of noncompliance.

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

Dated this 1st day of June, 1995.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

By the Director, on behalf of the Commission.

/s/ Wesley D. Norton, Director

STATE OF NORTH DAKOTA)
)
COUNTY OF BURLEIGH)
)

AFFIDAVIT OF MAILING

I, Donna Bauer, being duly sworn upon oath, depose and say: That on the 8th day of June 1995, I enclosed in separate envelopes true and correct copies of the attached Order No. 7043 of the North Dakota Industrial Commission, and deposited the same with the United States Postal Service in Bismarck, North Dakota, with postage thereon fully paid, directed to the following persons by the Industrial Commission in Case No. 6080 :

Mr. John Morrison
Fleck, Mather & Strutz Ltd.
P. O. Box 2798
Bismarck, ND 58502

Mr. Lawrence Bender
Pearce & Durick
P. O. Box 400
Bismarck, ND 58502

Mr. Craig Smith
Fleck, Mather & Strutz Ltd.
P. O. Box 2798
Bismarck, ND 58502

Mr. Scott Steinke
Samedan Oil Corporation
1050 17th Street
Suite 1100
Denver, CO 80265

Donna Bauer
Donna Bauer
Oil & Gas Division

On this 8th day of June, 1995, before me personally appeared Donna Bauer to me known as the person described in and who executed the foregoing instrument and acknowledged that she executed the same as her free act and deed.

Eric Johnson
Notary Public
State of North Dakota County of Burleigh
My Commission expires 11-3-98

LAW OFFICES OF
FLECK, MATHER & STRUTZ, LTD.

400 EAST BROADWAY, SUITE 600
NORWEST BANK BUILDING
P. O. BOX 2798

BISMARCK, NORTH DAKOTA 58502

TELEPHONE TELECOPIER
(701) 223-6585 (701) 222-4853

ERNEST R. FLECK
RUSSELL R. MATHER
WILLIAM A. STRUTZ
GARY R. WOLBERG*
PAUL W. SUMMERS
STEVEN A. STORSLEE*
BRIAN R. BJELLA

JOHN W. MORRISON
ROBERT J. UDLAND*
CURTIS L. WIKE*
CHARLES S. MILLER, JR.*
CRAIG C. SMITH**
DEENELLE L. RUUD*

ALSO LICENSED IN:
*MINNESOTA
**MONTANA
*IOWA

May 15, 1995



Jack Wilborn
ND INDUSTRIAL COMMISSION
Oil & Gas Division
1022 East Divide
Bismarck, ND 58501

In re Samedan Oil Corporation
Amended Application
Case No. 6080
Our File No. 22672

Dear Jack:

Please find enclosed an Amended Application in the captioned matter.

Paragraph 2 has been corrected to indicate that the well is currently completed in the Sadler-Madison pool but is also capable of production from the Sadler-Bakken pool. If you have any questions, please let me know.

Very truly yours,

John W. Morrison
JOHN W. MORRISON
by CCS

bz
Enc.

1 BEFORE THE INDUSTRIAL COMMISSION
2 OF THE STATE OF NORTH DAKOTA



3 IN THE MATTER OF THE APPLICATION)
4 OF SAMEDAN OIL CORPORATION FOR AN)
5 ORDER OF THE COMMISSION PURSUANT)
6 TO SECTION 43-02-03-88.1 OF THE)
7 NORTH DAKOTA ADMINISTRATIVE CODE)
8 ALLOWING THE COMMINGLING OF)
9 HYDROCARBONS PRODUCED FROM THE)
10 SADLER-BAKKEN AND SADLER-MADISON)
11 POOLS IN THE WELL BORE OF THE CAMP)
12 DAVIS STATE #1-16 WELL, LOCATED IN)
13 THE SW¼NW¼ OF SECTION 16, TOWNSHIP)
14 161 NORTH, RANGE 95 WEST, DIVIDE)
15 COUNTY, NORTH DAKOTA.)

AMENDED APPLICATION

16 COMES NOW the applicant, Samedan Oil Corporation, and
17 respectfully alleges as follows:

18 1. That it is the owner of an interest in the oil and gas
19 leasehold estate underlying the NW¼ of Section 16, Township 161
20 North, Range 95 West, Divide County, North Dakota, and is the
21 operator of a the Camp Davis State #1-16 well, located in the
22 SW¼NW¼ of said Section 16. Said well lies within the field outline
23 for the Sadler field.

24 2. That said well is currently completed in the Sadler-
25 Madison pool, and the NW¼ of said Section 16 constitutes the
26 spacing unit for the Bakken production. Said well is also capable
27 of production from the Sadler-Bakken pool, for which the NW¼ of
28 said Section 16 also constitutes a spacing unit.

3. That applicant desires to commingle production from the
two pools in the well bore of the Camp Davis State #1-16.
Applicant is willing to allocate production on the basis of
fingerprint analysis performed at such frequency as may be
established by the Commission.

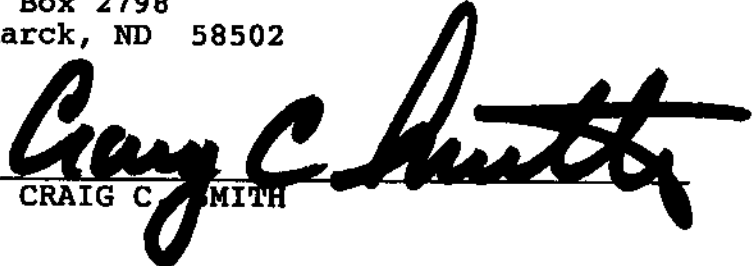
1 4. In applicant's opinion, allowing such commingling will
2 protect correlative rights, prevent waste, prevent the drilling of
3 unnecessary wells, and result in the greatest ultimate recovery of
4 oil and gas.

5 5. That Scott Steinke may be contacted at (303) 534-1533
6 with any questions regarding this application.

7 WHEREFORE, applicant respectfully requests that this matter be
8 set for hearing under the provisions of Section 43-02-03-88.1 of
9 the North Dakota Administrative Code and that following such
10 hearing the Commission or the Director enter an order granting the
11 relief requested.

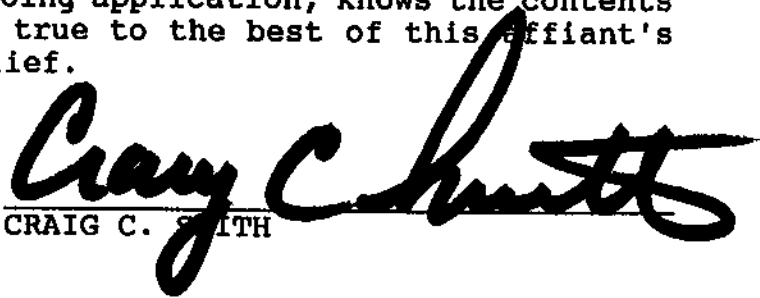
12 Dated this 15 day of May, 1995.

13 SAMEDAN OIL CORPORATION
14 FLECK, MATHER & STRUTZ, LTD.
15 Attorneys for the Applicant
16 Suite 600, 400 East Broadway
17 P.O. Box 2798
18 Bismarck, ND 58502

19 By: 
CRAIG C. SMITH

20 STATE OF NORTH DAKOTA)
21 COUNTY OF BURLEIGH) ss.

22 Craig C. Smith, being first duly sworn on oath, deposes and
23 says that he is the attorney for the applicant herein named, that
24 he has read the above and foregoing application, knows the contents
25 thereof, and that the same is true to the best of this affiant's
26 knowledge, information and belief.

27 
CRAIG C. SMITH

1 Subscribed and sworn to before me this 15 day of May, 1995.

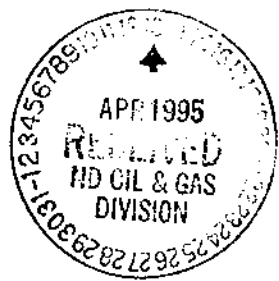
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3 (SEAL)

Beth Wald
Notary Public
Burleigh County, North Dakota
My Commission Expires:

BETH WALD
Notary Public Burleigh Co., ND
My Commission Expires Nov. 28, 1996

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BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA



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IN THE MATTER OF THE APPLICATION)
OF SAMEDAN OIL CORPORATION FOR AN)
ORDER OF THE COMMISSION PURSUANT)
TO SECTION 43-02-03-88.1 OF THE)
NORTH DAKOTA ADMINISTRATIVE CODE)
ALLOWING THE COMMINGLING OF)
HYDROCARBONS PRODUCED FROM THE)
SADLER-BAKKEN AND SADLER-MADISON)
POOLS IN THE WELL BORE OF THE CAMP)
DAVIS STATE #1-16 WELL, LOCATED IN)
THE SW¼NW¼ OF SECTION 16, TOWNSHIP)
161 NORTH, RANGE 95 WEST, DIVIDE)
COUNTY, NORTH DAKOTA.)

APPLICATION

COMES NOW the applicant, Samedan Oil Corporation, and respectfully alleges as follows:

1. That it is the owner of an interest in the oil and gas leasehold estate underlying the NW¼ of Section 16, Township 161 North, Range 95 West, Divide County, North Dakota, and is the operator of a the Camp Davis State #1-16 well, located in the SW¼NW¼ of said Section 16. Said well lies within the field outline for the Sadler field.

2. That said well is currently completed in the Sadler-Bakken pool, and the NW¼ of said Section 16 constitutes the spacing unit for the Bakken production. Said well is also capable of production from the Sadler-Madison pool, for which the NW¼ of said Section 16 also constitutes a spacing unit.

3. That applicant desires to commingle production from the two pools in the well bore of the Camp Davis State #1-16. Applicant is willing to allocate production on the basis of fingerprint analysis performed at such frequency as may be established by the Commission.

1 4. In applicant's opinion, allowing such commingling will
2 protect correlative rights, prevent waste, prevent the drilling of
3 unnecessary wells, and result in the greatest ultimate recovery of
4 oil and gas.

5 5. That Scott Steinke may be contacted at (303) 534-1533
6 with any questions regarding this application.

7 WHEREFORE, applicant respectfully requests that this matter be
8 set for hearing under the provisions of Section 43-02-03-88.1 of
9 the North Dakota Administrative Code and that following such
10 hearing the Commission or the Director enter an order granting the
11 relief requested.

12 Dated this 12th day of April, 1995.

13 SAMEBAN OIL CORPORATION

14 FLECK, MATHER & STRUTZ, LTD.
15 Attorneys for the Applicant
16 Suite 600, 400 East Broadway
17 P.O. Box 2798
18 Bismarck, ND 58502

19 By: 
20 JOHN W. MORRISON

21 STATE OF NORTH DAKOTA

22 COUNTY OF BURLEIGH

23) ss.
24)

25 John W. Morrison, being first duly sworn on oath, deposes and
26 says that he is the attorney for the applicant herein named, that
27 he has read the above and foregoing application, knows the contents
28 thereof, and that the same is true to the best of this affiant's
knowledge, information and belief.


JOHN W. MORRISON

1 Subscribed and sworn to before me this 12th day of April,
2 1995.

3 (SEAL)

Beth Wald
Notary Public
Burleigh County, North Dakota
My Commission Expires:

BETH WALD
Notary Public Burleigh Co., ND
My Commission Expires Nov. 28, 1996

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SAMEDAN OIL CORPORATION

DENVER REGION

1050 Seventeenth Street, Suite 1100

Denver, Colorado 80265

(303) 534-1533

Fax (303) 534-1103

May 24, 1995

NDIC Docket No. 6080

Camp Davis St. #1-16

SWNW Sec 16 - T161N - R95W

NDIC Well File No. 13578

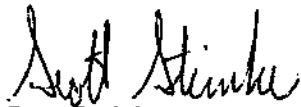
North Dakota Industrial Commission
Oil and Gas Division
600 East Boulevard
Bismarck, North Dakota 58505

Ladies and Gentlemen:

Attached are exhibits to be presented at the May 24, 1995 NDIC docket. Samedan Oil Corporation requests permission to commingle Bakken and Madison production in the same tubing string and surface production facilities. Commingling these two zones will ^{increase by 2%} almost double the recoverable reserves from the Camp Davis St. #1-16. Modern analytical techniques and individual production histories will allow production from each zone to be allocated accurately.

The undersigned will represent Samedan Oil. John Morrison of the law offices of Fleck, Mather and Strutz will provide legal counsel.

Sincerely,
Samedan Oil Corporation



Scott Steinke
Petroleum Engineer

SAMEDAN OIL CORPORATION

DENVER REGION

1050 Seventeenth Street, Suite 1100

Denver, Colorado 80265

(303) 534-1533

Fax (303) 534-1103

May 24, 1995

NDIC Docket No. 6080
Camp Davis St. #1-16
SWNW Sec 16 - T161N - R95W
NDIC Well File No. 13578

Objectives of Commingling:

- 1.) Commingling production increases production, cash flow and rate of return for both working interest owners and mineral owners.
- 2.) Producing more than one zone at a time lowers the economic limit in each pay zone. This increases the ultimate recovery from each zone and the well.
- 3.) Commingling will prevent additional workovers to switch zones in the future.

EXHIBITS

- 1.) Location Plat
- 2.) Topo Map
- 3.) Land Plat
- 4.) Bakken Cross Section
- 5.) Madison (Ratcliffe) Cross Section
- 6.) Well History
- 7.) Wellbore Schematic
- 8.) Reservoir Pressures, Expected Recoveries of Bakken and Madison
- 9.) Crude Oil Fingerprint Analysis

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NDIC Docket No. 6080
Camp Davis St. #1-16
NDIC Well File No. 13578

Exhibit 6 - Well History

9/5/93	Spud
10/13/93	TD
11/30/93	Perforate Bakken 8618-8634
12/20/93	Completed as Bakken oil well pumping 15 BOPD, 3 BWPD
1/10/94	Frac Bakken with 100,000# 20/40 sand and gelled oil
1/26/94	After frac IP of 140 BOPD, 147 MCFPD, 0 BWPD
11/30/93-3/1/95	Cumulative Bakken Production 11,233 BO; 6880 MCF; 867 BW
3/2/95	Set RBP over Bakken perms at 8540. Final rate 22 BOPD, 1 BWPD.
March, 1995	Perforate Madison zones 7307-7403 (Ratcliffe) and 7414-7432 (Midale)
3/26/95	Test Madison at 27 BOPD, 15 BWPD.
April, 1995	Average from Madison 14 BOPD, 21 BWPD

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Camp Davis St. #1-16
SWNW 16 - T161N - R95W
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Exhibit 7 - Wellbore Schematic

Rod String:

- 1 1/4" x 22' Adish Rod (22')
- 108 x 7/8" Rds (6,700')
- 187 x 7/8" Rds (4,675')
- 2 x 1 1/2" X-BARS (50')
- 2 1/2" x 1 1/2" x 16' Pump (16')

Top of CEMENT AT 7,940'

Tubing String:

- 228' 2 1/2" 27 1/2" 6.5" L60 (7,237')
- 5 1/2" Basic Tub. Anchor (2') TAG @ 7,240'
- 7 7/8" 27 1/2" 6.2" L60 (223')
- 27 1/2" Section Nipple (1') SW @ 7,472'
- 4 x 27 1/2" Section Nipple (4')
- 1 1/2" 27 1/2" 6.2" L60 w/ Anchor (30') SET @ 7,509'

5 1/2" TAG AT 7,240 FT.
w/ 18,000' TENSION

PERFS: RATCLIFF
7,307 - 7,403 FT. 3-15-95

PERFS: MIDALE
7,416 - 7,432 FT. 3-10-95

Cancelled
3-9-95

PERFS: MISSOURI CANYON
7,444 - 7,456 FT.
3-4-94

D.V. TOOL @ 7,514-16'

PERFS: BAKKEN
8,618 - 8,634 FT.
11-30-93

Cancelled
11-24-93

PERFS: INTERLAKS
11,514 - 11,528 FT.
11-9-93

PERFS: RED RIVER
11,786 - 11,808 FT.
11-3-93

5 1/2" csq.
SET @ 11,916'

T.D. 12,067'

Pumping Unit:

AMERICAN 320-305-100" Stroke
w/ AJAT 6-42 GAS ENGINE.

9 5/8" - 36" KSS - STC - CSQ.
SET AT 2,510 FT.

5 1/2" CASING DESIGN

# JOINTS	WEIGHT	GRADE	LENGTH	FOOT
3	30	L-80		90
17	17	L-80	717	1227
60	17	L-80	2439	3666
80	17	X-53	2424	5090
13	23	22-75	298	5388
5	20	L-80	100	5488
120' TOTAL				
24	21	L-80	504	5992
8	20	L-80	160	6152
25	17	L-80	1700	7852
18	23	22-75	420	8272
9	17	22-75	153	8425
20	30	L-80	600	9025
Joint Collar				
1	20	L-80	60	9085
CSQ. 36"				
1	20	L-80	60	9145

Stage 1 Cement: 1225 cu ft. 100' 22"
Stage 2 Cement: 720 cu ft. 100' 22" + 420 cu ft.

SQUEEZE PERFS 3-8-95
w/ 76 SK PREMIUM CEMENT

RETRIEVABLE BRIDGE PLUG 3-4-95
SET AT 8,510 FT. w/ 10' SAND ON TOP

CIBP SET AT 11,000'
11-30-93

SQUEEZE PERFS 11-29-93
w/ 50 SKS CLASS-G CEMENT

CIBP SET AT 11,700'
11-9-93 w/ 2 SK CEMENT ON TOP

5 1/2" csq. set at 11,916'

Total Depth of well 12,067'

SAMEDAN OIL CORPORATION

DENVER REGION

1050 Seventeenth Street, Suite 1100

Denver, Colorado 80265

(303) 534-1533

Fax (303) 534-1103

May 24, 1995

NDIC Docket No. 6080

Camp Davis St. #1-16

NDIC Well File No. 13578

Exhibit 8 - Reservoir Pressures and Expected Recoveries

DST #1

7413-7457 FSIP = 2979 psi P* = 3138

DST #2

8624-8647 FSIP = 4187 psi P* = 4258

Propose commingling with pump intake at 7472'. This will allow us to keep Madison zones pumped off and prevent thiefing from one zone to another. Due to the very tight (less than 1 md permeability) nature of the reservoirs, the risk of one zone thiefing another is very minimal to begin with.

Expected Recoveries

Case 1: Produce Bakken to economic limit, recomplete to Madison, produce Madison, P&A

Current Bakken rate: 22 BOPD Economic Limit: 10 BOPD Decline Rate: 10% annual

Bakken Reserves = $(Q-Q_e) \cdot 365 / D = (22-10) \cdot 365 / 0.10 = 43,800$ BO

Current Madison rate: 14 BOPD Economic Limit: 10 BOPD Decline Rate: 10% annual

Madison Reserves = $(14-10) \cdot 365 / 0.10 = 14,600$ BO

Total Case 1 Reserves = 43,800 + 14,600 = 58,400 BO

Case 2: Commingle Bakken and Madison, produce both to economic limit, P&A

Commingled Rate: 36 BOPD Economic Limit: 10 BOPD Decline Rate: 10% annual

Total Case 2 Reserves = $(36-10) \cdot 365 / 0.10 = 94,900$ BO

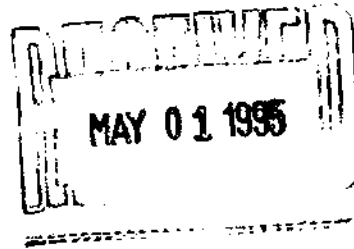
Commingling increases reserve recovery by ^{36,500} ~~46,500~~ BO or ⁶³ ~~80~~%

ASTRO-CHEM LAB, INC.

P. O. BOX 972 • WILLISTON, ND 58802-0972

TELEPHONE
701-572-7355

April 24, 1995



Samedan Oil Corporation
123 W. 1st St., Suite 675-7
Casper, WY 82601
Attn: Lynn Hitt

Dear Sir:

Crude oil samples from the Camp Davis State #1-16, located at SWNW 16-161-95 in Divide County, North Dakota, were submitted for preliminary "FINGERPRINT" analysis. A Bakken sample (8,614-8,634') was sampled and submitted on March 3, 1995. A Midale-Ratcliffe sample (7,307-7,432') was sampled on March 18, 1995 and submitted on March 20, 1995. The results are as follows:

I. Ratios of compounds to each other.

BLEND		C18:ISO	Pristane:Phytane
Bakken	Midale-Ratcliffe		
100	0	3.13	1.53
75	25	2.38	1.24
50	50	1.96	1.11
25	75	1.78	0.97
0	100	1.60	0.82

These ratios could be used to determine allocation of production to formations.

II. Normalized percentages of Isoprenoids.

Isoprenoid #	Bakken	Midale-Ratcliffe
13	23.76	13.75
14	15.75	12.86
15	9.67	16.96
16	17.68	16.79
18	15.47	12.86
19	9.94	13.21
20	7.73	13.57

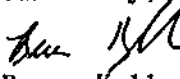
A graph of the normalized isoprenoids is enclosed.

If you have any questions or need further assistance, please do not hesitate to call. Thank you for allowing Astro-Chem to be of service.

BAKKEN: 42° API

MID-RAT: 36° API

Sincerely,


Bruce Kylio
Astro-Chem Lab

May 24, 1995

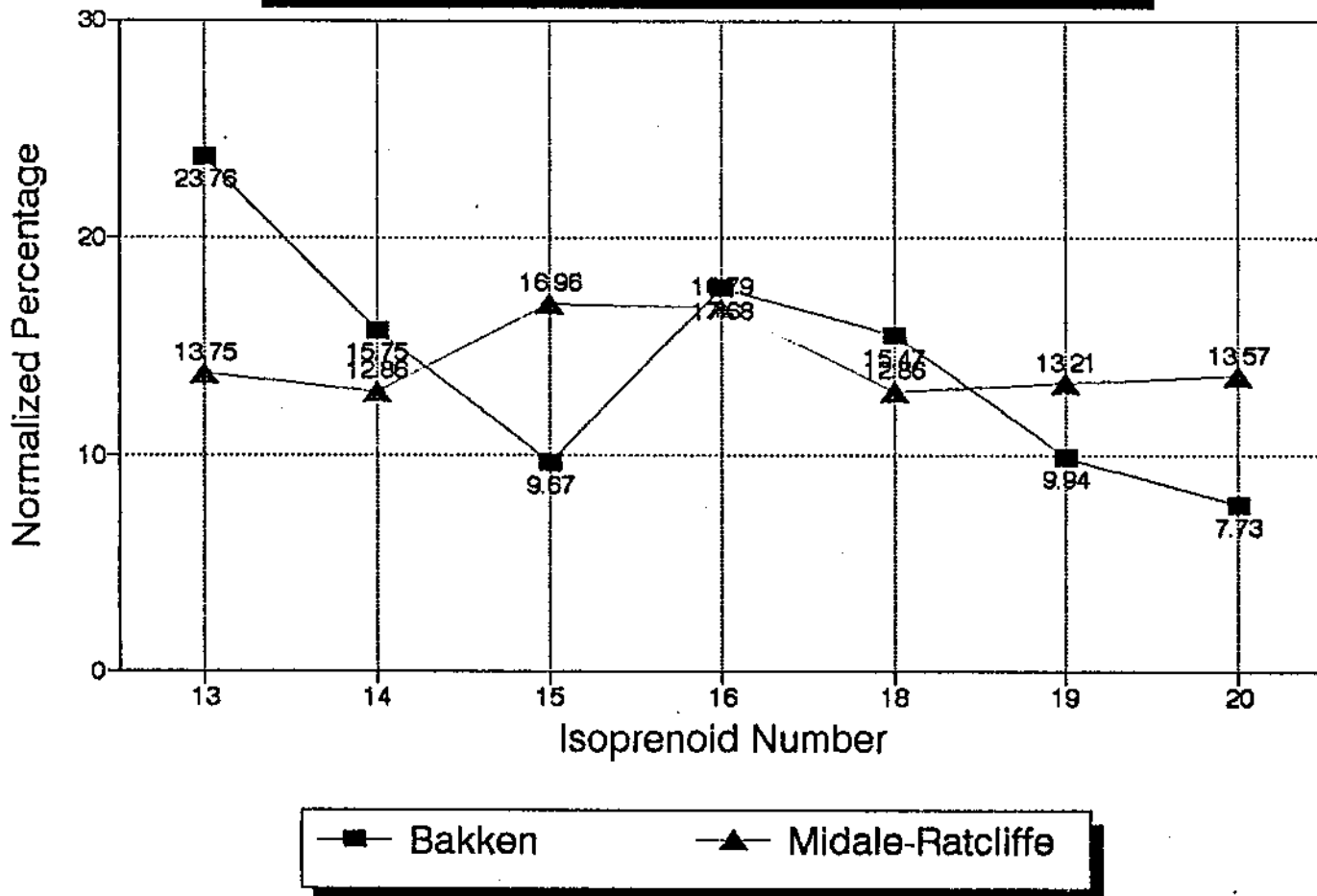
BK:ch

cc: Denver, CO Office
F-95-0504; 0654

NDIC Docket No. 6080
Camp Davis St. #1-16
SWNW 16 - T161N - R95W
NDIC Well File No. 13578

Camp Davis State #1-16

Normalized Isoprenoids



May 24, 1995

NDIC Docket No. 6080
Camp Davis St. #1-16
SWNW 16 - T161N - R95W
NDIC Well File No. 13578

Jett

ASTRO-CHEM LAB, INC.

4102 2nd Ave. West

Williston, North Dakota 58802-0972
P.O. Box 972

Phone: (701) 572-7355

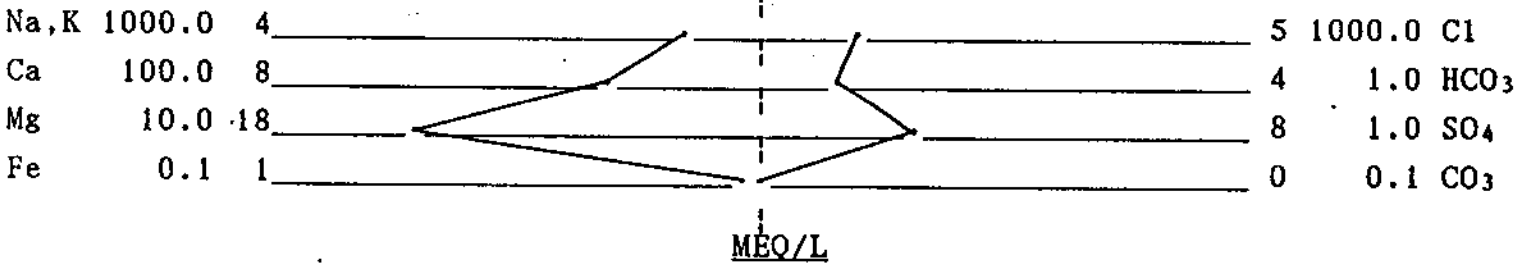
WATER ANALYSIS REPORT

SAMPLE NUMBER W-95-0655 DATE OF ANALYSIS 3-20-95
COMPANY Samedan Oil Corporation
CITY Casper STATE WY
WELL NAME AND/OR NUMBER Camp Davis State #1-16
DATE RECEIVED 3-20-95 DST NUMBER
SAMPLE SOURCE Swab
LOCATION SWNW OF SEC. 16 TWN. 161 RANGE 95 COUNTY Divide, ND
FORMATION Midale - Ratcliffe DEPTH 7,307' - 7,432'
DISTRIBUTION Lynn Hitt - Casper, WY
 Denver, CO Office

RESISTIVITY @ 77°F = 0.041 Ohm-Meters pH = 6.82
 SPECIFIC GRAVITY @ 77°F = 1.210 H₂S = Pos
 TOTAL DISSOLVED SOLIDS (CALCULATED) = 315850 mg/L (261033 ppm)
 SODIUM CHLORIDE (CALCULATED) = 318181 mg/L (262960 ppm)

CATION	MEQ/L	mg/L	ANION	MEQ/L	mg/L
CALCIUM	780.0	15475	CHLORIDE	5442.6	192956
MAGNESIUM	180.0	2000	CARBONATE	0.0	0
SODIUM	4349.8	100000	BICARBONATE	3.8	232
IRON	0.1	1.6	SULFATE	7.5	360
CHROMIUM	0.1	0.5	NITRATE	0.0	0
BARIIUM	0.1	4.0			
POTASSIUM	123.3	4820			

WATER ANALYSIS PATTERN



REMARKS Date Sampled 3-18-95

May 24, 1995

NDIC Docket No. 6080
 Camp Davis St. #1-16
 SWNW 16 - T161N - R95W
 NDIC Well File No. 13578

ANALY:

R 95 W

T
161
N

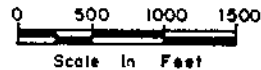
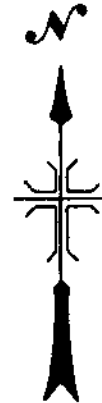
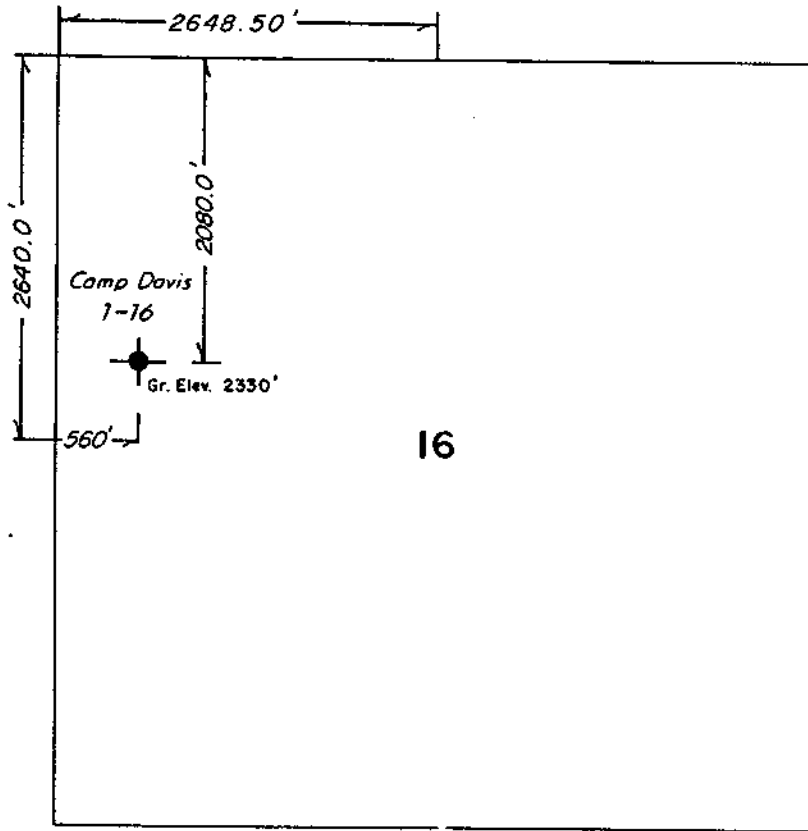


EXHIBIT 1 CASE NO. 6080

SAMEDAN OIL CORPORATION

1050 17th Street, Suite 1100
Denver, Colorado 80265
(303) 534-1533 FAX (303) 534-1103

CAMP DAVIS PROSPECT

DIVIDE COUNTY, NORTH DAKOTA

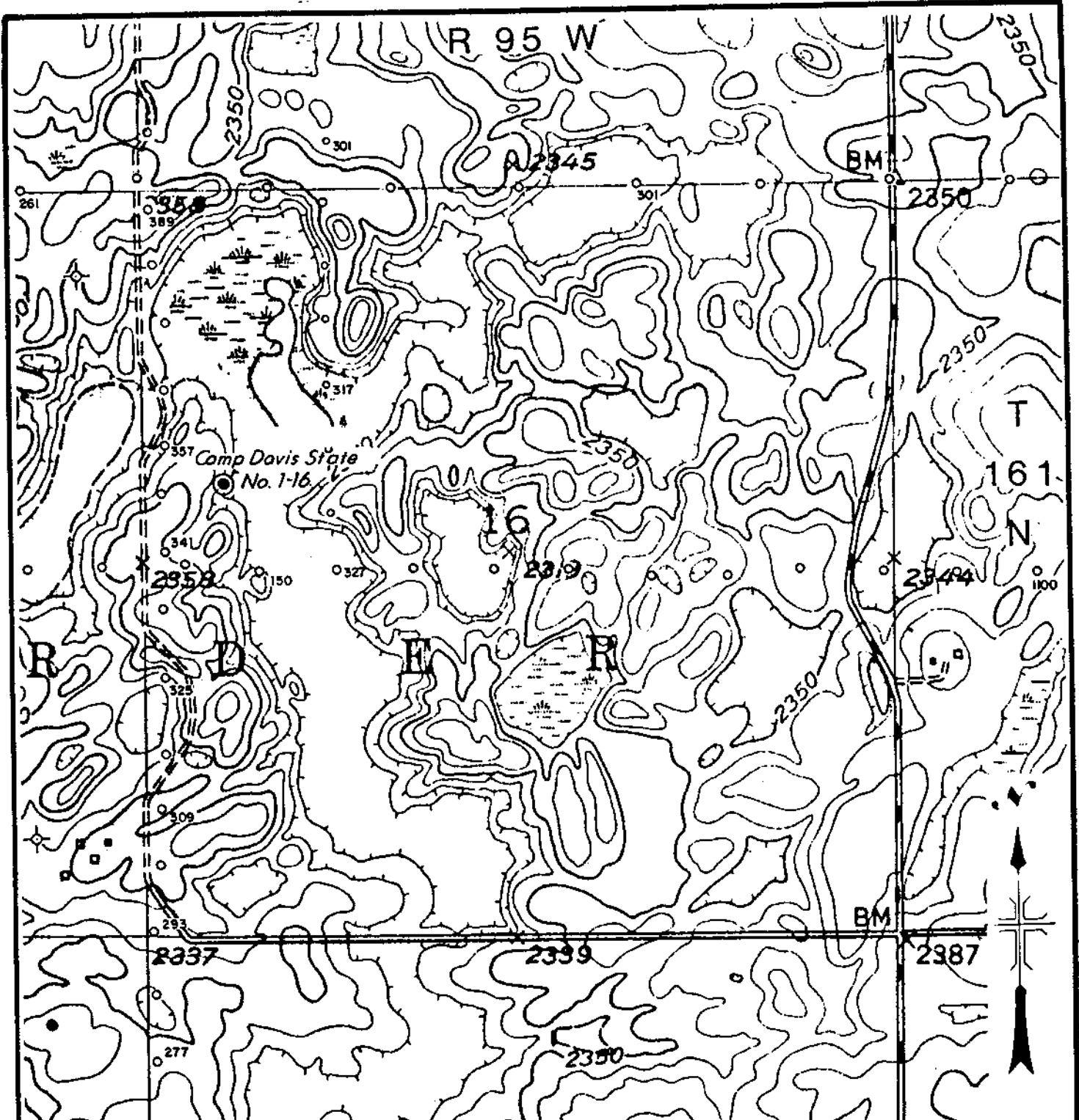
N. D. INDUSTRIAL
COMMISSION HEARING
MAY 24, 1995

LOCATION PLAT

by: F. SENZ

Date: July, 1993

Rev.: 5/8/95



N. D. INDUSTRIAL
COMMISSION HEARING
MAY 24, 1995

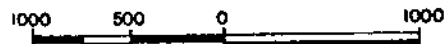
- SLOUGH
- WETLAND

EXHIBIT 2 CASE NO. 6080

SAMEDAN OIL CORPORATION
1050 17 TH. STREET, SUITE 1100 DENVER, COLORADO 80265
(303) 534 - 1535 (303) 534 - 1103 Fax

CAMP DAVIS PROSPECT
DIVIDE COUNTY, NORTH DAKOTA

TOPOGRAPHIC MAP
SECTION 16



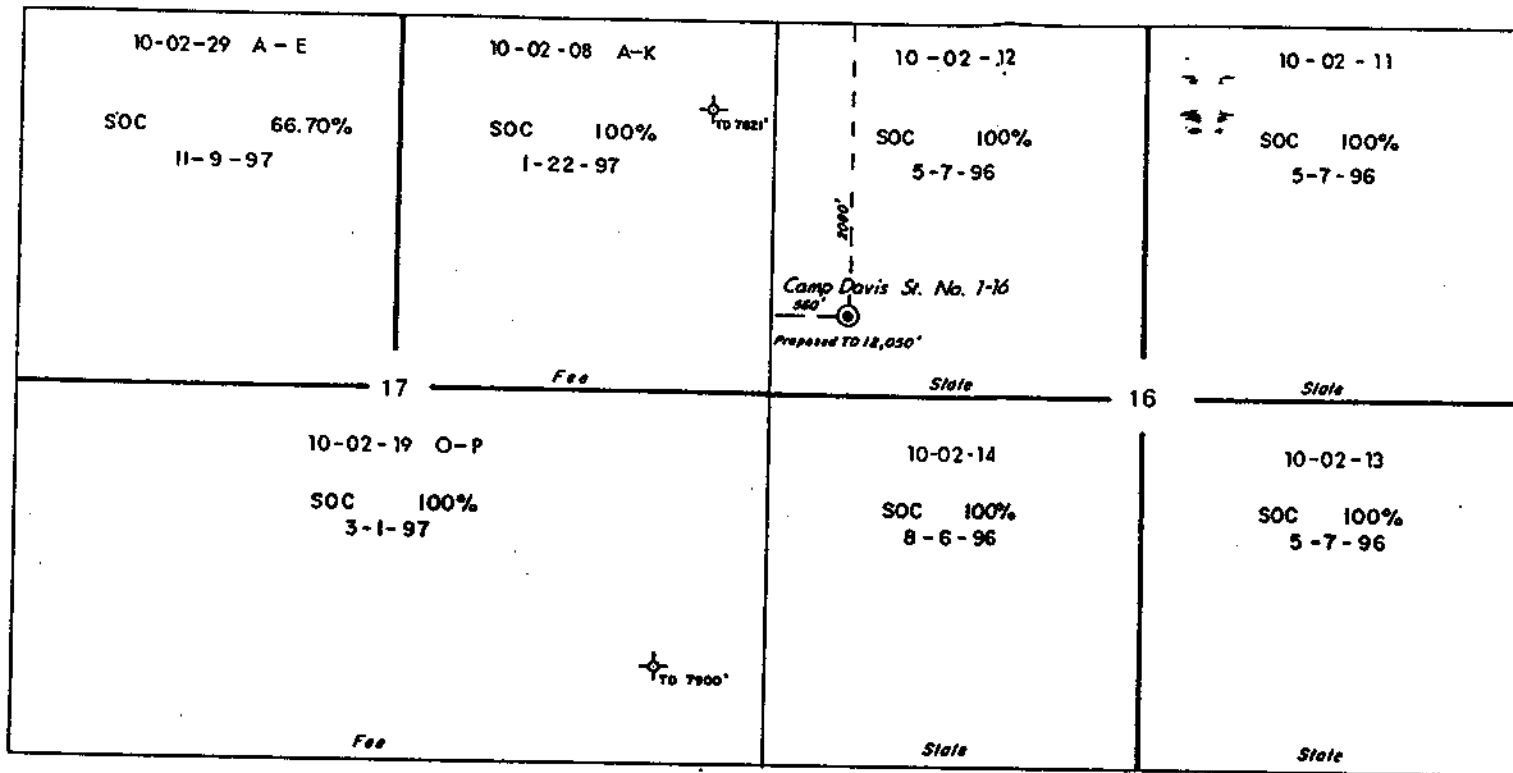
F. Senz

JULY, 1993

5/8/95

R 95 W

T
161
N



N. D. INDUSTRIAL COMMISSION
 HEARING
 MAY 24, 1995
 EXHIBIT 3 CASE NO. 6080

SAMEDAN OIL CORPORATION
 1050 17th St., Suite 1100 DENVER, COLORADO 80202
 (303) 534-1833 (303) 534-1103 Fax

CAMP DAVIS PROSPECT
 DIVIDE COUNTY, NORTH DAKOTA

LAND PLAT

1000 500 0 1000
 Scale in Feet

J. LONG JUNE, 1995

NORTH APACHE CORP.
10-8 FREDRICKSON
C SE 8-T161N-R95W
KB: 2389' COMP: 10/1987

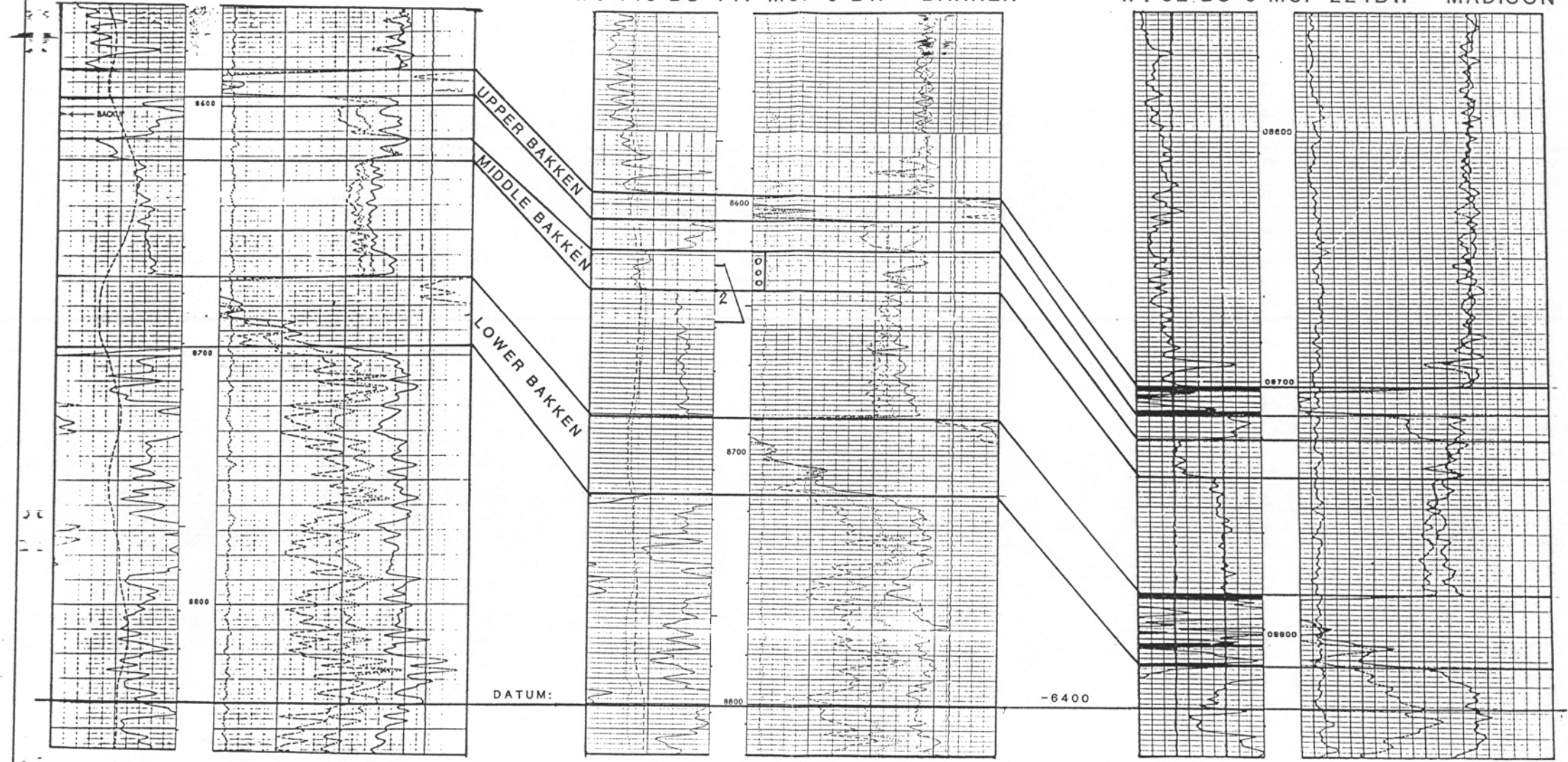
SAMEDAN OIL CORP.
1-16 CAMP DAVIS-ST.
SW NW 16-T161N-R95W
KB: 2351' COMP: 10/1993

SOUTH CONDOR PET.
1 HEUER 41-20
C NE NE 20-T161N-R95W
KB: 2379' COMP: 9/1985



IP: 140 BO 147 MCF 0 BW - BAKKEN

IP: 52 BO 6 MCF 221BW - MADISON



DST 2: 8624-8647' Rec 188' GCMOWE,
70' GCO w/M&WE, .015 CFG,
1250 cc OWME.
SIP 1413-4225#.

N. D. INDUSTRIAL
COMMISSION HEARING
MAY 24, 1995
EXHIBIT 4 CASE NO. 6080

CROSS-SECTION BY SAMEDAN OIL CORP.

A

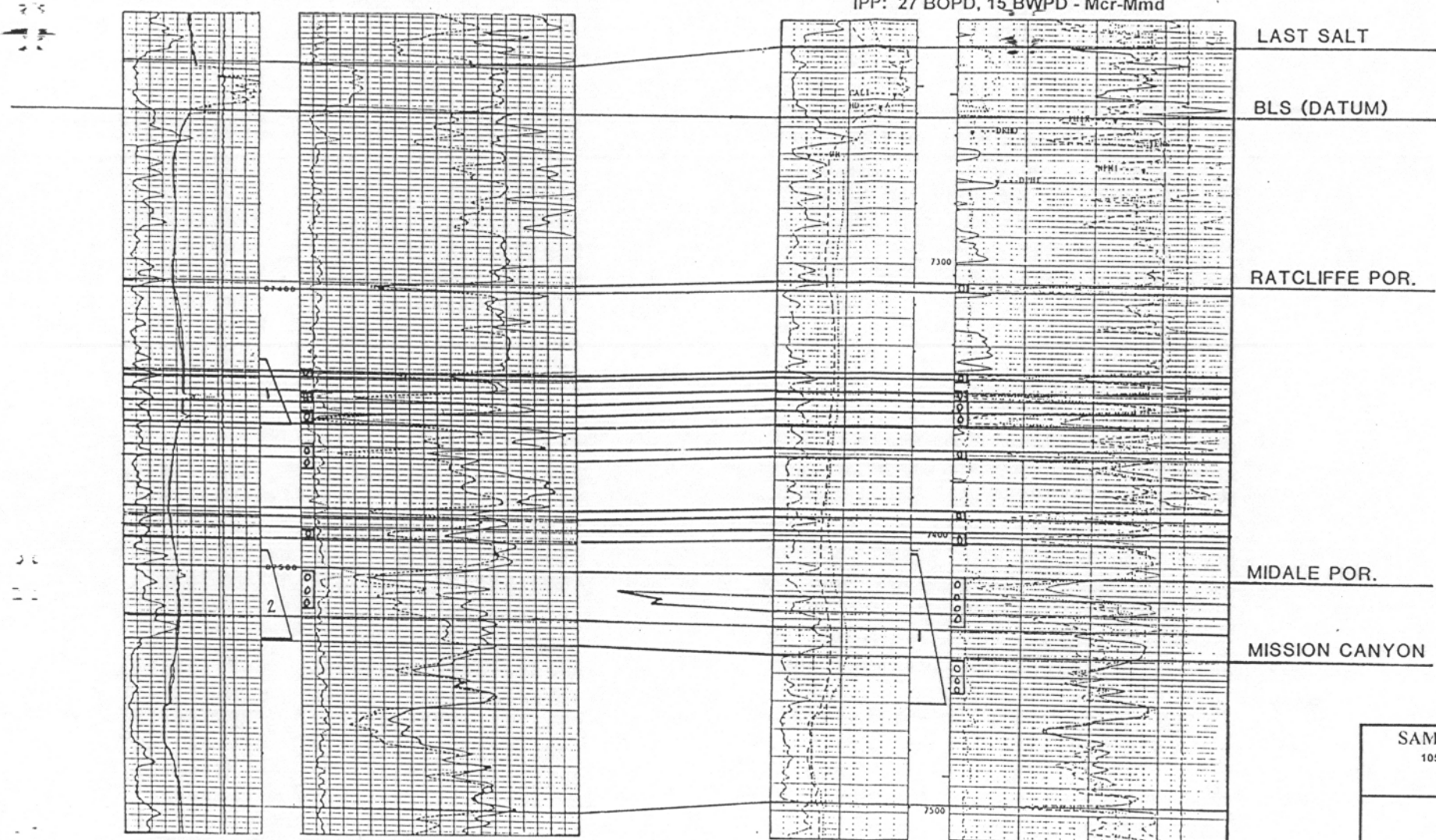
LOUISIANA LAND & EXPLORATION CO.
#1 HEUER 41-20
NE NE SEC. 20 - T161N - R95W
KB: 2379' COMP: 09/07/1985

SAMEDAN OIL CORPORATION
CAMP DAVIS STATE #1-16
SW NW SEC. 16 - T161N - R95W
KB: 2351' COMP: 10/93 R1: 01/95

A'

IPP: 52 BOPD, 6 MCFD, 221 BWPD - MCR

IPP: 27 BOPD, 15 BWPD - MCR-MMD



DST 1: 7425-7448', REC 1 BBL OIL, 1900cc OIL, 1 CFG, SIP 646-3018#.
 DST 2: 7494-7525', REC 1 BBL OIL, 1 BBL MUD, 1000cc OIL, 400cc WTR,
 4 CFG, SIP 3214-3187#.
 PERFS: 7428-31', 7437-40', 7443-47', 7455-64', 7486-89', 7501-14'. ACID, GTY 35.4, GOR 1155.
 CUM. PROD: 79,086 BO, 79,456 MCF, 602,792 BW.
 CURR PROD: 16 BOPD, 8 MCFD, 215 BWPD.

DST 1: 7406-7460', REC 284' GCW&OE, 90' G&SOCW, 1400cc O&WE. SIP 2799-3025#.
 PERFS: 7307-10', 7340-43', 7346-50', 7350-59', 7368-71', 7390-93', 7398-403', 7414-32',
 ACIDIZED, 7444-56', ACIDIZED AND SQUEEZED.

LAST SALT
 BLS (DATUM)
 RATCLIFFE POR.
 MIDALE POR.
 MISSION CANYON

N. D. INDUSTRIAL COMMISSION
 HEARING
 MAY 24, 1995
 EXHIBIT 5 CASE NO. 6080

SAMEDAN OIL CORPORATION
 1050 SEVENTEENTH STREET, SUITE 1100
 DENVER, COLORADO 80265
 (303) 534-1533

SADLER FIELD
 DIVIDE COUNTY, NORTH DAKOTA

STRATIGRAPHIC CROSS-SECTION A-A'
 RATCLIFFE ZONE

Geol: Frank Senz	Datum: TOP/BLS	Date: MAY 1995
Tech: C. Tompkins	Scale:	Revised:

Notice of publication

**NORTH DAKOTA
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 9:00 a.m. on May 24, 1995, Pioneer Room, State Capitol, Bismarck, North Dakota. For the purpose of this hearing, the Commission, any member thereof acting as Examiner, or an Examiner appointed by the Commission will receive testimony and exhibits.

ATTENTION PERSONS WITH DISABILITIES: If you plan to attend the hearing and will need special facilities or assistance relating to a disability, please contact the North Dakota Industrial Commission at 701-328-3722 by May 10, 1995.

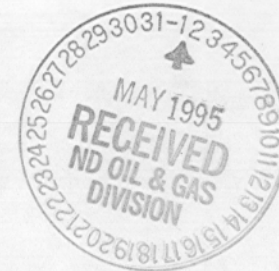
**STATE OF
NORTH DAKOTA TO:**

All named parties and persons having any right, title, interest, or claim in the following cases and notices to the public. CASE NO. 6080: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF SAMEDAN OIL CORPORATION FOR AN ORDER PURSUANT TO SECTION 43-02-03-88.1 OF THE NORTH DAKOTA ADMINISTRATIVE CODE ALLOWING THE COMMINGLING OF HYDROCARBONS PRODUCED FROM THE SADLER-BAKKEN AND SADLER-MADISON POOLS IN THE WELLBORE OF THE CAMP DAVIS STATE #1-16 WELL, LOCATED IN THE SW NW OF SECTION 16, T.161N., R.95W., DIVIDE COUNTY, NORTH DAKOTA.

Signed by,
Edward T. Schafer, Governor
Chairman
ND Industrial Commission

ok

4480
cc 2/100
obj. 2440
#32.00
5-2-95
17/1



Affidavit of Publication

State of North Dakota, County of Divide, ss:

I, Steven J. Andrist, being first duly sworn, on my oath, say that I am the publisher of The Journal, a weekly newspaper of general circulation and official newspaper of Divide County, State of North Dakota, published in the city of Crosby, ND, and that the advertisement headed

Notice of publication

a printed copy of which is here attached, was published in The Journal on the following dates:

_____	_____	Lines @ _____	= \$ _____
_____	_____	Lines @ _____	= \$ _____
_____	_____	Lines @ _____	= \$ _____
April 26, 1995	8	Column Inches @ 4.00	= \$ 32.00	
_____	_____	Column Inches @ _____	= \$ _____	
_____	_____	Column Inches @ _____	= \$ _____	

Notary/Affidavit Fee \$ _____

Total Charge \$ 32.00

Signed Steven J. Andrist
Steven J. Andrist, Publisher

Subscribed and sworn to before me April 27, 1995

Donna Molander
Donna Molander
Notary Public, State of North Dakota
My Commission Expires December 14, 2000

PAID



THE BISMARCK TRIBUNE

P.O. BOX 1498 BISMARCK, NORTH DAKOTA 58502-1498
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OIL & GAS DIVISION
600 BISMARCK E BOULEVARD
ND 58505

**CR54
AV

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LEGAL PUB

**NOTICE OF PUBLICATION
NORTH DAKOTA
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 9:00 a.m. on May 24, 1995, Pioneer Room, State Capitol, Bismarck, North Dakota. For the purpose of this hearing, the Commission, any member thereof acting as Examiner, or an Examiner appointed by the Commission will receive testimony and exhibits.

ATTENTION PERSONS WITH DISABILITIES: If you plan to attend the hearing and will need special facilities or assistance relating to a disability, please contact the North Dakota Industrial Commission at 701-328-3722 by May 10, 1995.

STATE OF NORTH DAKOTA TO:

All named parties and persons having any right, title, interest, or claim in the following cases and notices to the public. CASE NO. 6077: ON A MOTION OF THE COMMISSION TO CONSIDER THE PROPER SPACING FOR THE DEVELOPMENT OF THE HEDBERG-MADISON POOL, RENVILLE COUNTY, NORTH DAKOTA, REDEFINE THE LIMITS OF THE FIELD, AND ENACT SUCH SPECIAL FIELD RULES AS MAY BE NECESSARY. (HALLWOOD PETROLEUM, INC.) CASE NO. 6078: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF SAMEDAN OIL CORPORATION FOR AN ORDER ALLOWING A WELL TO BE DRILLED AT A LOCATION APPROXIMATELY 1980 FEET FROM THE NORTH LINE AND 2550 FEET FROM THE WEST LINE OF SECTION 6, T.146N., R.102W., MCKENZIE COUNTY, NORTH DAKOTA, AS AN EXCEPTION TO THE APPLICABLE RULES AND ORDERS COVERING THE PIERRE CREEK FIELD. CASE NO. 6079: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF SAMEDAN OIL CORPORATION FOR AN ORDER ALLOWING A WELL TO BE DRILLED AT A LOCATION APPROXIMATELY 2154 FEET FROM THE WEST LINE AND 1454 FEET FROM THE SOUTH LINE OF SECTION 6, T.146N., R.102W., MCKENZIE COUNTY, NORTH DAKOTA, AS AN EXCEPTION TO THE APPLICABLE RULES AND ORDERS COVERING THE PIERRE CREEK FIELD. CASE NO. 6080: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF SAMEDAN OIL CORPORATION FOR AN ORDER PURSUANT TO SECTION 43-02-03-88.1 OF THE NORTH DAKOTA ADMINISTRATIVE CODE, ALLOWING THE COMINGLING OF HYDROCARBONS PRODUCED FROM THE SADLER-BAKKEN AND SADLER-MADISON POOLS IN THE WELLBORE OF THE CAMP DAVIS STATE #1-16 WELL, LOCATED IN THE SW NW OF SECTION 16, T.161N., R.95W., DIVIDE COUNTY, NORTH DAKOTA. CASE NO. 6081: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF SAMEDAN OIL CORPORATION FOR AN ORDER CONSIDERING THE PROPER SPACING FOR THE DEVELOPMENT OF THE CATWALK-RED RIVER POOL, WILLIAMS COUNTY, NORTH DAKOTA, REDEFINING THE LIMITS OF THE FIELD, AND ENACTING SUCH SPECIAL FIELD RULES AS MAY BE NECESSARY.

BILLING PERIOD

CASE NO. 6082: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF MERIDIAN OIL, INC. FOR AN ORDER AMENDING THE SPACING ORDERS FOR THE BOG CREEK RED RIVER, AUSTIN-RED RIVER, SKULL CREEK-RED RIVER, AND IVES-RED RIVER FIELDS, SO AS TO ESTABLISH A SINGLE FIELD OR SPACED AREA COVERING PORTIONS OF T.132N., R.106W.; T.131N., R.106W.; T.131N., R.105W.; T.130N., R.106W.; AND T.130N., R.105W., ALL IN BOWMAN COUNTY, NORTH DAKOTA; AND FURTHER ESTABLISHING 640 ACRE SPACING UNITS FOR HORIZONTAL WELLS COMPLETED IN THE RED RIVER FORMATION WITHIN THE OUTLINE OF SUCH FIELD AREA; OR ALTERNATIVELY, GRANT SUCH OTHER AND FURTHER RELIEF AS WILL ENABLE APPLICANT TO DEVELOP THE RED RIVER FORMATION UNDERLYING SUCH AREA IN AN EFFICIENT AND ECONOMICAL MANNER THROUGH THE USE OF HORIZONTAL DRILLING. CASE NO. 6083: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF WILLIAM HERBERT HUNT TRUST ESTATE FOR AN ORDER ESTABLISHING TEMPORARY SPACING FOR THE DEVELOPMENT OF AN OIL AND/OR GAS POOL DISCOVERED BY THE CUNNINGHAM #1 WELL, LOCATED IN THE SW/4 OF SECTION 23, T.157N., R.100W., WILLIAMS COUNTY, NORTH DAKOTA, DEFINING THE LIMITS OF THE FIELD, AND ENACTING SUCH SPECIAL FIELD RULES AS MAY BE NECESSARY. CASE NO. 6084: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF HUNT OIL COMPANY FOR AN ORDER ESTABLISHING TEMPORARY SPACING FOR THE DEVELOPMENT OF TWO OIL AND/OR GAS POOLS DISCOVERED BY THE SOUTHEAST RUSIAN CREEK #14-16 WELL, LOCATED IN THE SW/4 OF SECTION 16, T.141N., R.95W., DUNN COUNTY, NORTH DAKOTA, DEFINING THE LIMITS OF THE FIELD, AND ENACTING SUCH SPECIAL FIELD RULES AS MAY BE NECESSARY. CASE NO. 6085: ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF HUNT OIL COMPANY FOR AN ORDER PURSUANT TO SECTION 43-02-03-88.1 OF THE NORTH DAKOTA ADMINISTRATIVE CODE ALLOWING THE COMINGLING OF HYDROCARBONS PRODUCED FROM THE SIMON BUTTE-SILURIAN, SIMON BUTTE-STONEWALL AND SIMON BUTTE-RED RIVER POOLS IN THE WELLBORE OF THE SOUTHEAST RUSIAN CREEK #14-16 WELL, LOCATED IN THE SW/4 OF SECTION 16, T.141N., R.95W., DUNN COUNTY, NORTH DAKOTA. CASE NO. 6086: (CONTINUED) ON A MOTION OF THE COMMISSION TO CONSIDER THE PROPER SPACING FOR THE DEVELOPMENT OF THE BEAVER CREEK STONEWALL POOL, GOLDEN VALLEY AND BILLINGS COUNTIES, NORTH DAKOTA, REDEFINE THE LIMITS OF THE FIELD, AND ENACT SUCH SPECIAL FIELD RULES AS MAY BE NECESSARY. JVA OPERATING COMPANY, INC.

Signed by,
Edward T. Schafer, Governor
Chairman, ND Industrial Commission
4/26 - 12825

D=Distribution
I=Inches
L=Lines

SIZE	TIMES	TOTAL UNITS	RATE
	1	159L	.53
<p>SWORN AND SUBSCRIBED TO, BEFORE ME THIS 24th day of May 1995, I, Patricia J. Nelson, Notary Public in and for the State of North Dakota, Residing at Bismarck, North Dakota, County of Burleigh } ss</p> <p><i>Patricia J. Nelson</i> Notary Public, STATE OF NORTH DAKOTA My Commission Expires NOV. 1996</p>			

PAYMENT TERMS

10th of month following charges

G DATE

0/95

SOLD-TO NUMBER

166202-9

DETACH
HERE

ON

LEGAL PUB

M INVOICE GROUP TL

INVOICE NO. 1662029

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