

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 6513
ORDER NO. 7559

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 HYDROCARBONS PRODUCED FROM THE SADLER-MADISON AND SADLER-BAKKEN POOLS TO BE COMMINGLED IN THE WELL BORE OF THE NELSON #1-5 WELL, LOCATED IN THE SE/4 OF SECTION 5, T.161N., R.95W., DIVIDE COUNTY, NORTH DAKOTA, AND SUCH OTHER AND FURTHER RELIEF AS THE COMMISSION DEEMS APPROPRIATE.

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:00 a.m. on the 1st day of August, 1996, in Bismarck, North Dakota, before an examiner appointed by the Industrial Commission of North Dakota, hereinafter referred to as the "Commission."

NOW, on this 14th day of August, 1996, the Director, on behalf of the Commission and 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) 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 well bore the fluids from two or more pools under Section 43-02-03-42.

(3) Samedan Oil Corporation is desirous of commingling production from the Sadler-Madison and Bakken Pools in the well bore of its Nelson #1-5 well, located in the SE/4 of Section 5, Township 161 North, Range 95 West, Divide County, North Dakota.

(4) The Madison and Bakken Pools in the Nelson #1-5 well have identical spacing units.

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

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

(7) The commingling of production from said pools in the Nelson #1-5 well will recover oil that might not otherwise be produced and will protect correlative rights.

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

IT IS THEREFORE ORDERED:

(1) Samedan Oil Corporation, its assigns and successors, is hereby permitted to commingle production in the well bore from the Sadler-Madison and Bakken Pools in its Nelson #1-5 well, located in the SE/4 of Section 5, Township 161 North, Range 95 West, Divide County, North Dakota.

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

- (a) 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) The allocation of oil to respective pools shall be by a chemical fingerprint analysis method approved by the Director.
- (c) A chemical fingerprint analysis, of a representative sample of the commingled oil, be performed at regular intervals as approved by the Director.
- (d) A copy of the chemical fingerprint analysis be submitted to the Oil and Gas Division within thirty (30) days of the test date.
- (e) 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) 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) This order shall remain in full force and effect until further order of the Commission.

Dated this 14th day of August, 1996.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

By the Director, on behalf of the Commission.

/s/ Wesley D. Norton, Director
(2)

STATE OF NORTH DAKOTA)
)
)
COUNTY OF BURLEIGH)
)

AFFIDAVIT OF MAILING

I, Donna Bauer, being duly sworn upon oath, depose and say: That on the 15th day of August 1996, I enclosed in separate envelopes true and correct copies of the attached Order No. 7559 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. 6513 :

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

Samedan Oil Corp.
1050 17th Street
Suite 1100
Denver, CO 80265

Donna Bauer

Donna Bauer
Oil & Gas Division

On this 15th day of August, 1996, 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.

Margaret L. [Signature]
Notary Public

State of North Dakota County of Burleigh
My Commission expires 9.21.99

*Original
Case 2-22-17
on a basis with 4/21/17*



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 HYDROCARBONS PRODUCED)
FROM THE SADLER-MADISON AND)
SADLER-BAKKEN POOLS TO BE)
COMMINGLED IN THE WELLBORE OF THE)
NELSON 1-5 WELL, LOCATED IN THE)
SE¼ OF SECTION 5, TOWNSHIP 161)
NORTH, RANGE 95 WEST, DIVIDE)
COUNTY, NORTH DAKOTA, AND SUCH)
OTHER AND FURTHER RELIEF AS THE)
COMMISSION DEEMS APPROPRIATE.)

APPLICATION

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

1. It is the owner of an interest in the oil and gas leasehold estate underlying the SE¼ of Section 5, Township 161 North, Range 95 West, Divide County, and is the operator of the Nelson 1-5 well, located in the SE¼SE¼ of said Section 5. Said well lies within the field outline of the Sadler field.

2. Said well is currently completed in the Madison pool for which the SE¼ of said Section 5 constitutes a spacing unit. The well is also capable of production from the Sadler-Bakken pool, for which the SE¼ of said Section 5 also constitutes a spacing unit. Ownership is common for the Madison and Bakken production.

3. Applicant desires to commingle production from said pools in the wellbore of the Nelson 1-5 well. 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. Attached hereto are true and correct copies of the
2 following:

- 3 a. A plat showing the location of the Nelson 1-5 well.
4 b. A well history.
5 c. A downhole schematic showing the present status of the
6 Nelson 1-5 well.
7 d. A sheet entitled Pertinent Economics, showing that
8 commingling will result in the recovery of additional
9 hydrocarbons and will also result in other economic
10 benefits.
11 e. A copy of a fingerprint analysis on production samples
12 from the well.
13 f. Copies of two log sections, showing perforations in the
14 Madison and Bakken pools.

15 5. Applicant believes that allowing the commingling will
16 protect correlative rights, prevent waste, prevent the drilling of
17 unnecessary wells, and result in the greatest ultimate recovery of
18 oil and gas.

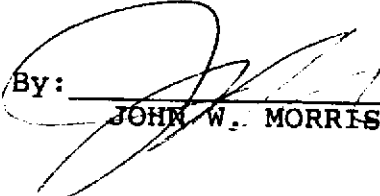
19 6. Steven H. Schmitz, P.E., may be contacted at (303) 534-
20 1533 with any questions regarding this application.

21 WHEREFORE, applicant respectfully requests that this matter be
22 set for hearing under the provisions of Section 43-02-03-88.1 of
23 the North Dakota Administrative Code, and that following such
24 hearing the Commission or the Director enter an order granting the
25 relief requested.

26 Dated this 9th day of July, 1996.
27
28

1 SAMEDAN OIL CORPORATION

2 FLECK, MATHER & STRUTZ, LTD.
3 Attorneys for the Applicant
4 Suite 600, 400 East Broadway
5 P.O. Box 2798
6 Bismarck, ND 58502

7 By: 
8 JOHN W. MORRISON

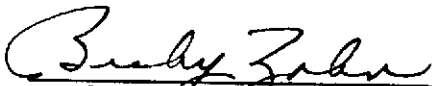
8 STATE OF NORTH DAKOTA)
9 COUNTY OF BURLEIGH) ss.
)

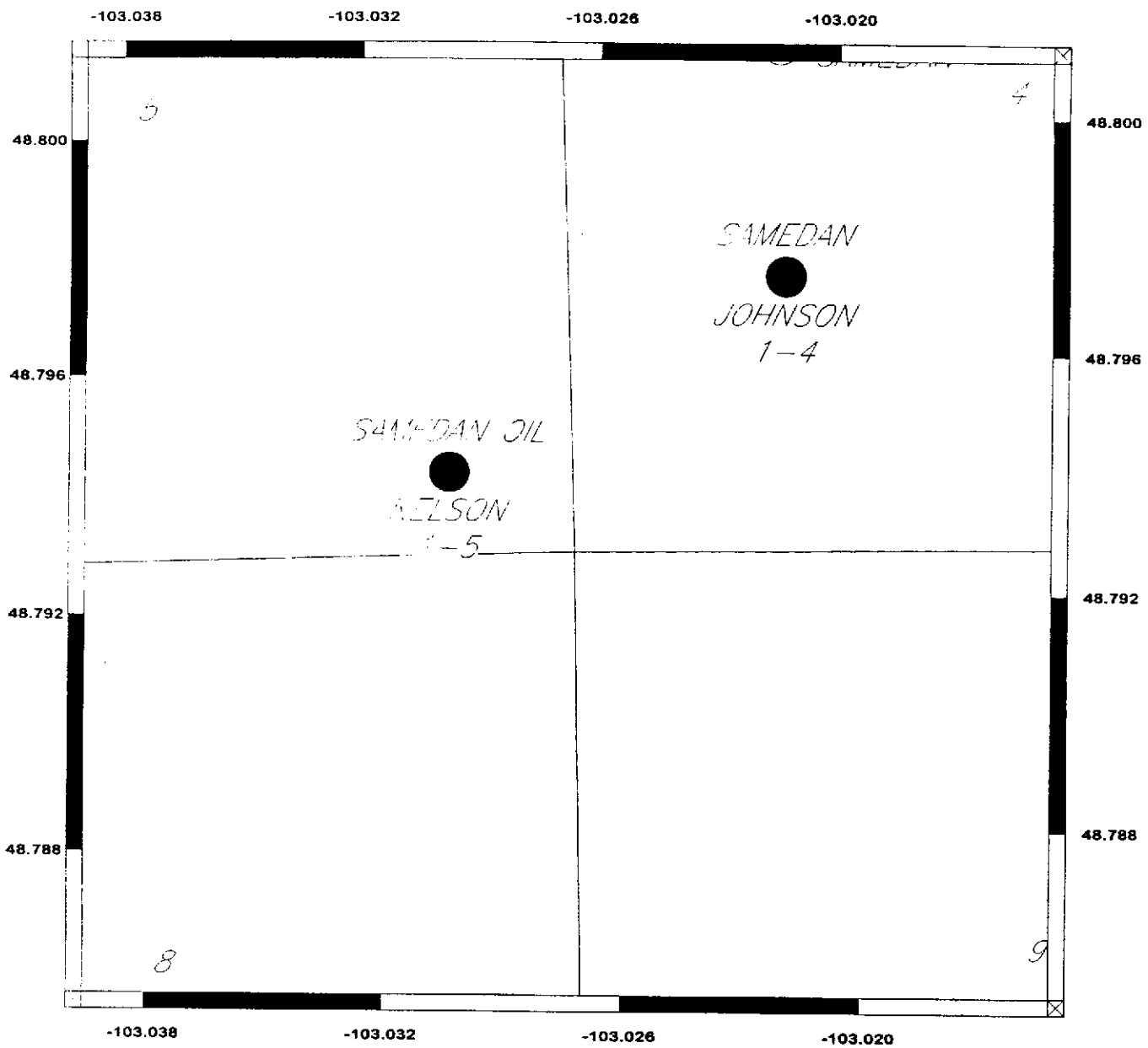
10 John W. Morrison, being first duly sworn on oath, deposes and
11 says that he is the attorney for the applicant herein named, that
12 he has read the above and foregoing application, knows the contents
13 thereof, and that the same is true to the best of this affiant's
14 knowledge, information and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

15 
16 JOHN W. MORRISON

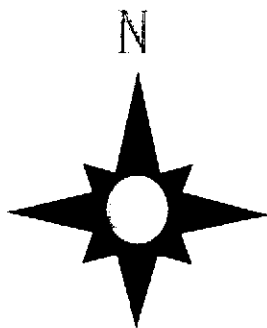
16 Subscribed and sworn to before me this 9th day of July,
17 1996.

18 (SEAL)

19 
20 Becky Zahn, Notary Public
21 Burleigh County, North Dakota
22 My Commission Expires: 04/19/01
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T161N - R95W



Samedan Oil Corporation		
NORTH DAKOTA		
Geol: Frank Senz	Scale 1:12000.	6/25/96
Eng: Steve Schmitz	Tech: C. Tompkins	hearing.gpf

Well History

Nelson #1-5

SESE Sec. 5 - T161N - R95W

Divide County, ND

3/5/96 Spud well
3/25/96 DST #1 in Duperow 9330-9368'
3/26/96 TD @ 9500'
3/27/96 Run/cmt 5 1/2" Csg
4/6/96 Perf Duperow 9396-9404', 9346-9356', 9314-9326', 2 spf, 100 deg phasing
4/9/96 Acidize lower Duperow (9396-9404') w/ 1600 gal 15% HCL w/ additives
4/11/96 Acidize upper Duperow (9346-56' & 9314-26') w/ 2000 gal 15% HCL w/ additives
4/13/96 Set cmt retainer @ 9380', sqz'd lower Duperow w/ 25 sx
4/18/96 Set cmt retainer @ 9340', sqz'd upper Duperow w/ 25 sx
4/19/96 Perf Bakken 8570-8586', 4 spf
4/23/96 Frac'd Bakken w/ 214000# 20/40 sand
5/9/96 Set RBP @ 7600', Perf'd Mission Canyon 7400-16', 2 spf, Midale 7366-92', 2 spf, Ratcliffe 7245-50', 7284-87', 7292-95', 7300-05', 7315-18', 7338-41', 2 spf
5/10/96 Acidized Mission Canyon 7400-16' w/ 1600 gal 15% HCL w/ additives, acidized Midale 7366-92' w/ 2000 gal 15% HCL, acidize Ratcliffe 7245-7341' w/ 2700 gal 15% HCL
5/16/96 Run tubing string
5/17/96 Run rod string, hook up tank battery
5/21/96 Set pumping unit and engine.
5/22/96 Start pumping unit, producing from Madison formations
6/10/96 24 hr prod., 37 BO, 259 BSW

Nelson #1-5 (Present Condition)

Location: SESE Sec. 5 - T161N - R95W
 Sadler Field
 Divide County, ND

Spud: 3/5/96
 Completion: 6/10/96
 GL: 2371'
 KB: 2386'

3000# Casinghead & Tubinghead Assembly

Tubing Data

Tbg: 2 7/8", 6.5#, L-80
 219 jts
 TAC @ 7195' KB
 9 jts
 MSN w/ 29' diptube @ 7494'KB
 6' Perf'd Sub
 1 jt 3" LP mud anchor

Rod Data

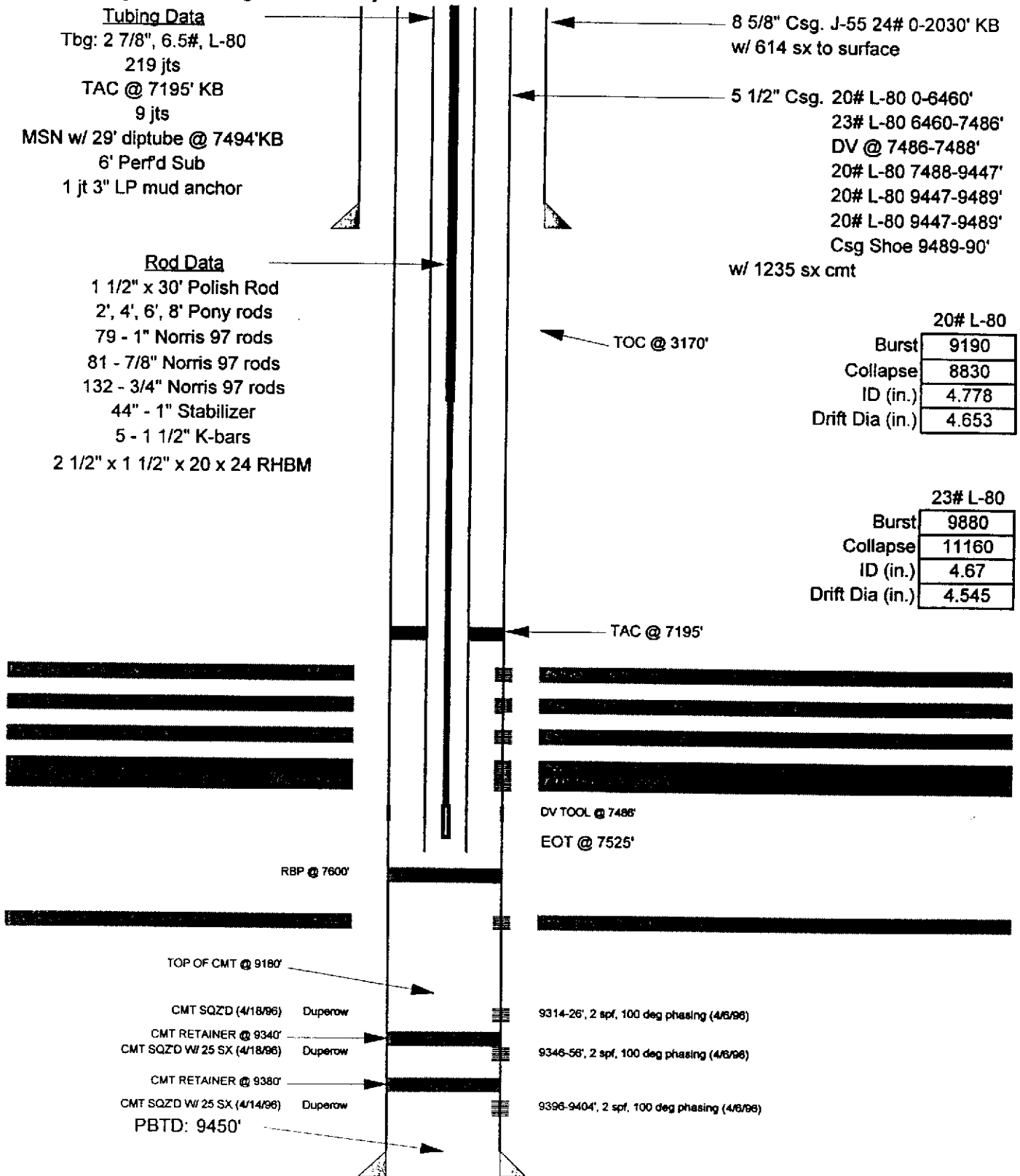
1 1/2" x 30' Polish Rod
 2', 4', 6', 8' Pony rods
 79 - 1" Norris 97 rods
 81 - 7/8" Norris 97 rods
 132 - 3/4" Norris 97 rods
 44" - 1" Stabilizer
 5 - 1 1/2" K-bars
 2 1/2" x 1 1/2" x 20 x 24 RHBM

8 5/8" Csg. J-55 24# 0-2030' KB
 w/ 614 sx to surface

5 1/2" Csg. 20# L-80 0-6460'
 23# L-80 6460-7486'
 DV @ 7486-7488'
 20# L-80 7488-9447'
 20# L-80 9447-9489'
 20# L-80 9447-9489'
 Csg Shoe 9489-90'
 w/ 1235 sx cmt

	20# L-80
Burst	9190
Collapse	8830
ID (in.)	4.778
Drift Dia (in.)	4.653

	23# L-80
Burst	9880
Collapse	11160
ID (in.)	4.67
Drift Dia (in.)	4.545



TD: 9500'

Pertinent Economics
Estimated Ultimate Recovery
(Production Decline Curve Analysis)

Producing Horizon	MBO	MMCF	Life, yrs	Present Worth (18%)
Madison (independently produced)	195	83	27.3	\$669,000
<u>Bakken (independently produced)</u>	<u>131</u>	<u>105</u>	<u>23.8</u>	<u>\$402,000</u>
Total	326	188	51.1	\$1,071,000
Commingled Madison & Bakken	375	301	34.3	\$1,243,000

The oil recovery factor if both zones are produced independently is $326,000/3,199,949 = 10.19\%$

The oil recovery factor if both zoned are produced simultaneously is $375,000/3,199,949 = 11.72\%$

These results are achieved since the cost to operate both zones simultaneously is less than the cost to operate independently over a longer project life.

The present worth of the difference in cash flows between these two scenarios is \$172,000.

ASTRO-CHEM LAB, INC.

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

TELEPHONE
701-572-7355

June 26, 1996

Samedan Oil Corporation
1050 17th St., Suite 1100
Denver, CO 80265
Attn: Lynn Hitt

Dear Sir:

Crude oil samples from the Nelson 1-5 well were submitted for preliminary "FINGERPRINT" analysis. A Bakken formation (8,570-8,586') was submitted on May 6, 1996. A Ratcliffe (7,245-7,351'), Midale (7,366-7,392'), Mission Canyon (7,400-7,416') formation was submitted on May 20, 1996.

Blends of 0, 25, 50, 75 and 100% of each sample were made up and injected into the G.C. The results are as follows:

I. Ratio of compounds to each other.

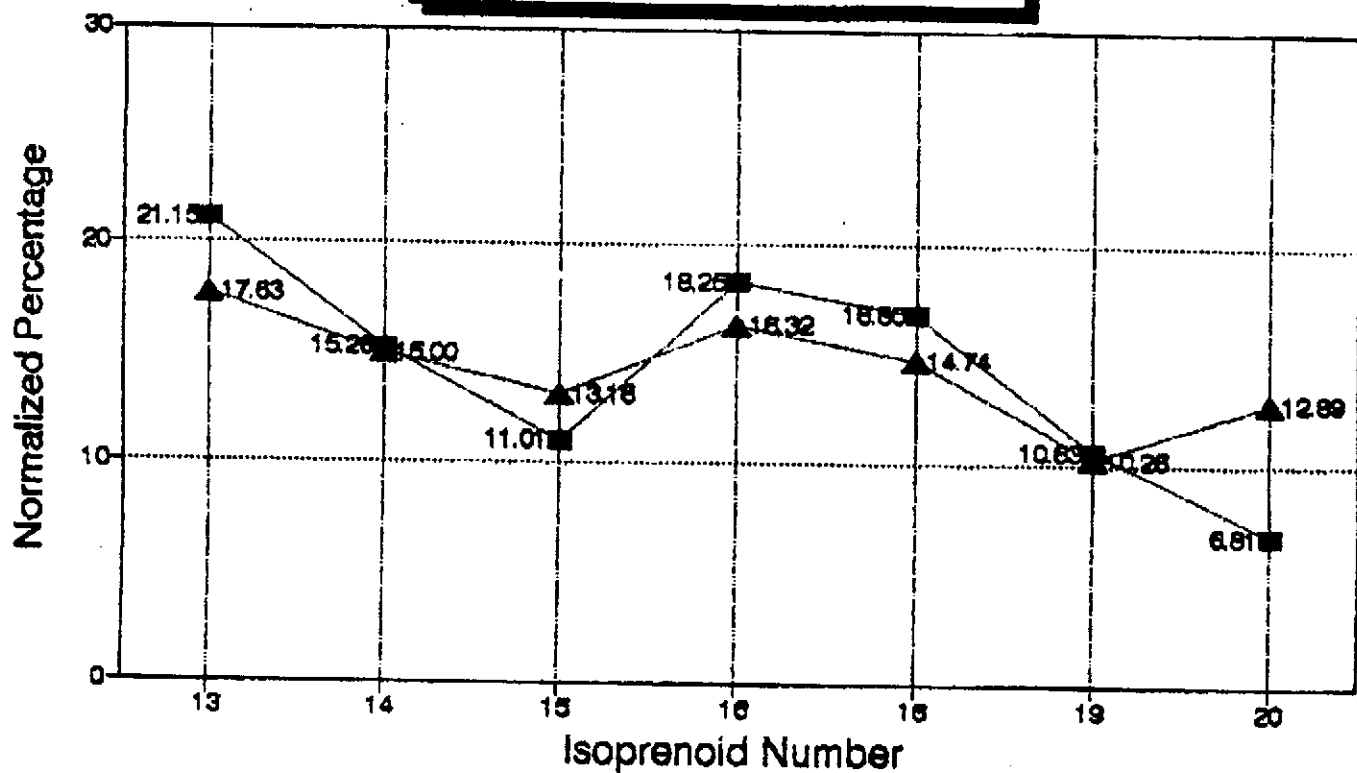
Bakken	BLEND Midale-Ratcliffe-MC	C18:ISO	Pristane:Phytane
100	0	2.94	1.56
75	25	2.61	1.37
50	50	2.18	1.10
25	75	2.07	0.99
0	100	1.99	0.80

These ratios could be used to determine allocation of production to formations on a commingle sample.

II. Normalized Isoprenoids

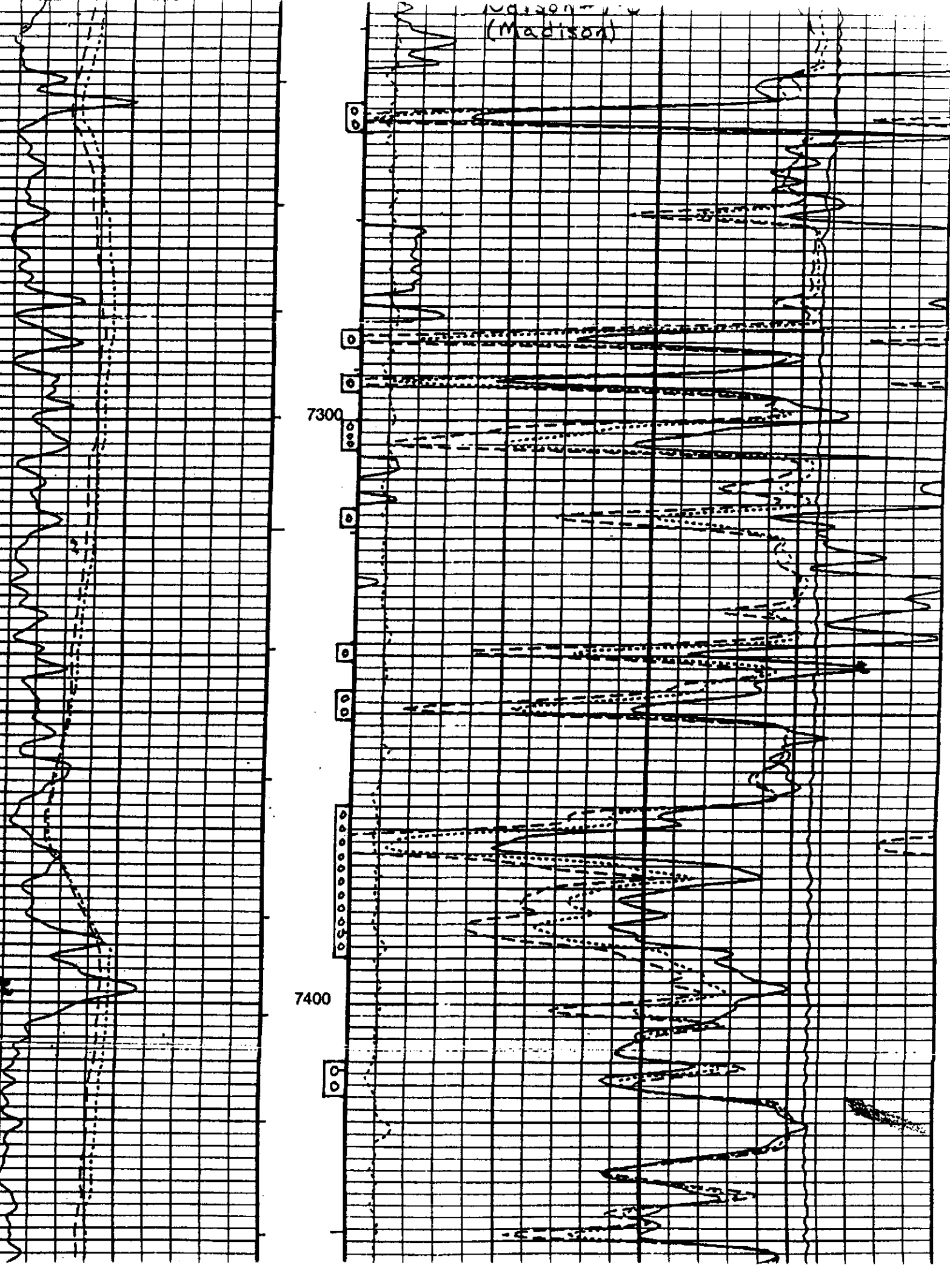
Isoprenoid #	Bakken	Midale-Ratcliffe-MC
13	21.15	17.63
14	15.26	15.00
15	11.01	13.16
16	18.25	16.32
18	16.80	14.74
19	10.63	10.26
20	6.81	12.89

**Nelson 1-5
Normalized Isoprenoids**



■ Bakken ▲ Midale-Ratcliffe-MC

Madison
(Madison)



7300

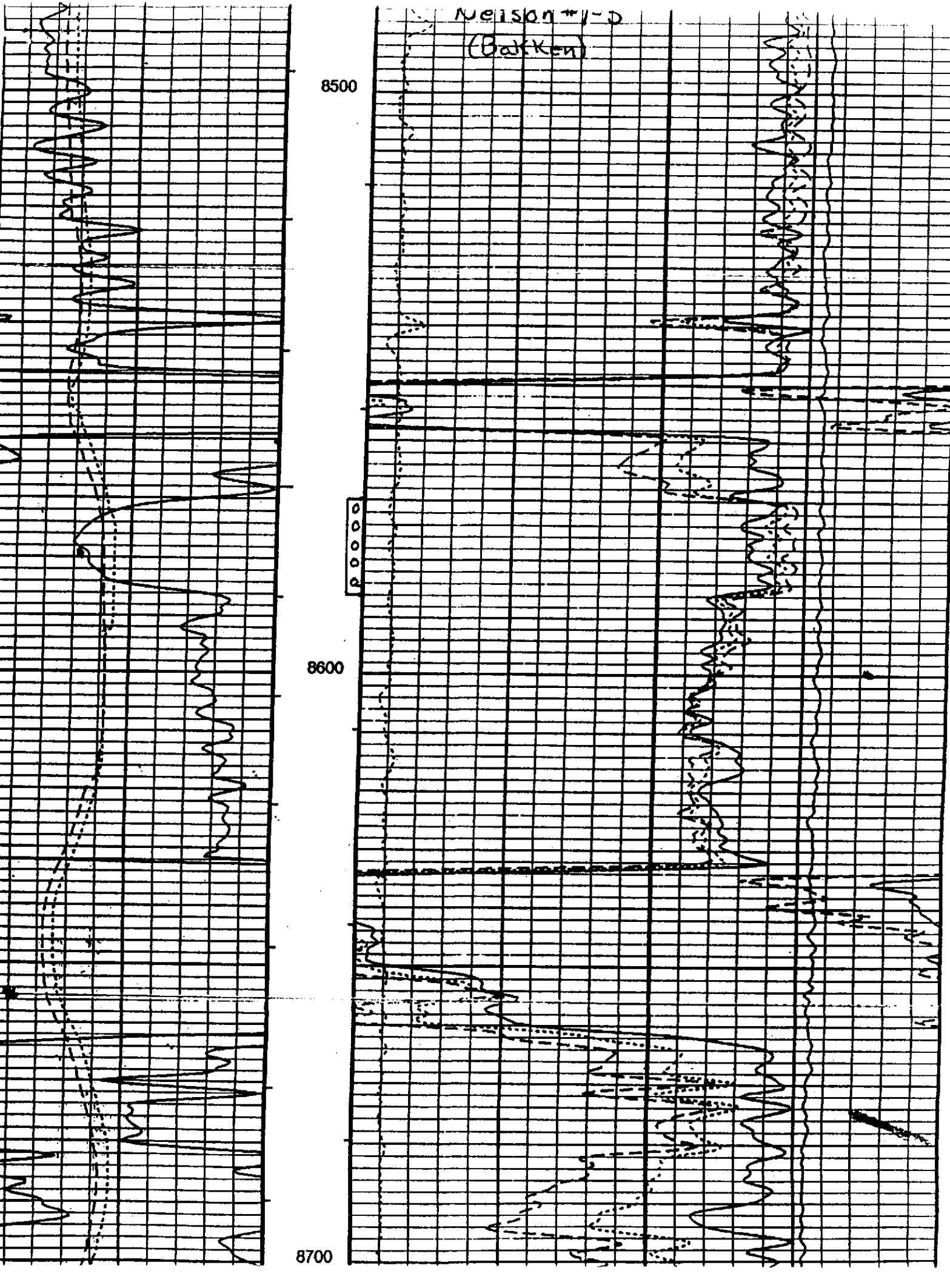
7400

Nelson #1-D
(Bakken)

8500

8600

8700



DATE	NEWSPAPER REFERENCE	DESCRIPTION - OTHER COMMENTS/CHARGES	SAU SIZE BILLED UNITS	TIMES RUN RATE	GROSS AMOUNT	NET AMOUNT
7-15	02059830 BT	NOTICE OF PUBL CLASS CODE - 0001	45L	.53 ¹	23.85	23.85

OK
 1686
 CC 2100
 obj 2440
 7-13-96
 623 # 9452

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 August 1, 1996, North Dakota Oil and Gas Division Office, 1022 East Divide Avenue, 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 July 25, 1996.
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. 6513:** ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF SAMEDAN OIL CORPORATION FOR AN ORDER PURSUANT TO SECTION 43-02-03-08.1 OF THE NORTH DAKOTA ADMINISTRATIVE CODE ALLOWING HYDROCARBONS PRODUCED FROM THE SADLER-MADISON AND SADLER-BAKKEN POOLS TO BE COMMINGLED IN THE WELL BORE OF THE NELSON #1-S WELL, LOCATED IN THE SE/4 OF SECTION 5, T.161N., R.95W., DIVIDE COUNTY, NORTH DAKOTA, AND SUCH OTHER AND FURTHER RELIEF AS THE COMMISSION DEEMS APPROPRIATE.
 Signed by,
 Edward T. Schafer, Governor
 Chairman, ND Industrial Commission
 715 - 20468

AFFIDAVIT OF PUBLICATION
 STATE OF NORTH DAKOTA
 I, the undersigned, do hereby certify that the above and foregoing is a true and correct copy of the notice of publication as the same appears in the issue of the newspaper on the date and at the place specified herein.
 I, Carla Job-Fuhrman, of the State of North Dakota, personally appeared Cleta Martin, who being duly sworn, depose and say that the above and foregoing is a true and correct copy of the notice of publication as the same appears in the issue of the newspaper on the date and at the place specified herein.
 Witness my hand and seal of office this 15 day of July, 1996.
Carla Job-Fuhrman
 Notary Public in and for the State of North Dakota, Residing at Bismarck
CARLA JOB-FUHRMAN
 Notary Public, STATE OF NORTH DAKOTA
 My Commission Expires JULY 1, 2002

PAID

STATEMENT OF ACCOUNT AGING OF PAST DUE AMOUNTS

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2059830	07/18/96	205983-0	205983-0	OIL & GAS DIVISI O
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Application

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 August 1, 1996, North Dakota Oil and Gas Division Office, 1022 East Divide Avenue, 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 July 25, 1996.

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. 6513:** 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 HYDROCARBONS PRODUCED FROM THE SADLER-MADISON AND SADLER-BAKKEN POOLS TO BE COMMINGLED IN THE WELL BORE OF THE NELSON #1-5 WELL, LOCATED IN THE SE/4 OF SECTION 5, T.161N., R.95W., DIVIDE COUNTY, NORTH DAKOTA, AND SUCH OTHER AND FURTHER RELIEF AS THE COMMISSION DEEMS APPROPRIATE.

Signed by,
Edward T. Schafer, Governor
Chairman,

4480
cc 2/100
obj. 2440
7-23-96
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Affidavit of Publication

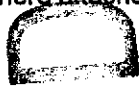
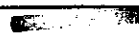
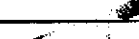
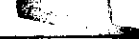

State of North Dakota, County of Divide, ss:

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

OK

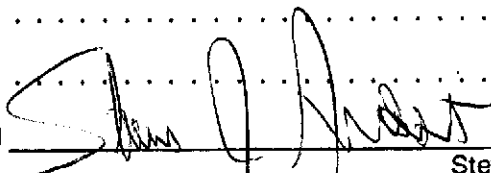
Notice of publication

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


	Lines @	_____	= \$	_____
	Lines @	_____	= \$	_____
	Lines @	_____	= \$	_____
July 17, 1996		8 1/2 Column Inches @	4.30	= \$	36.55
		Column Inches @	_____	= \$	_____
		Column Inches @	_____	= \$	_____

Notary/Affidavit Fee \$ _____

Total Charge \$ 36.55

Signed  Steven J. Andrist, Publisher

Subscribed and sworn to before me July 17, 1996


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