ARCO Oil and Gas Company
Permian District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 684 0100

RECEIVED
AUG 24 1981
OIL CONSERVATION DIVISION
SANTA FE

August 19, 1981

Mr. Dan Nutter
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico

Roy — this should be OK for admin. approval now.
8/26

Dear Mr. Nutter:

RE: Downhole Commingling Applications
Roy Barton No. 2, S. J. Sarkeys No. 4
and State 367 No. 2
Lea County, New Mexico

As we discussed in our telephone conversation of August 18, 1981, ARCO requests that you place the applications for downhole commingling for the Roy Barton No. 2, and State 367 No. 2 on the docket for the September 9, 1981, hearing.

Concerning the S. J. Sarkeys No. 4 application, as you suggested I have recalculated the Drinkard bottomhole pressure at a common datum with the Blinebry. The common datum used was the depth at which the Blinebry pressure was taken (5300'). The calculations for this are attached and show the Drinkard to have a pressure of 595 psi at this depth. This corresponds to a pressure differential of 1.41. We feel this new information makes it possible to give administrative approval to the Sarkeys application. If this application, still cannot be approved administratively, please add it to the docket for the September 9, 1981 hearing.

I appreciate your consideration of this matter and if you require any additional information please contact me.

Yours very truly,

Robert E. Craig

Robert E. Craig
Engineer

REC:cn

Attachment

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SANTA FE

S. J. Sarkeys No. 4

Pressures taken 3-4-81 after 24 hour shut-in

Bly pressure at 5300'	423 psi
Drkd pressure at 6501'	1007 psi

Correct Drkd pressure to common datum of 5300'

Drkd Oil level	3976
Drkd Water level	6384

			psi
Water Gradient	6501-6384	.4333	50.69
Oil Gradient	6384-5300	.3333	361.29
			411.99

Drkd pressure at 5300' is 1007-412= 595 psi

Pressure Differential $\frac{\text{Drkd}}{\text{Bly}} = \frac{595}{423} = 1.41$

ARCO Oil and Gas Company
Permian District
Post Office Box 1610
Midland, Texas 79702
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Process administrative upon receipt of new pressure data

May 26, 1981

Mr. Joe D. Ramey
Oil Conservation Division
New Mexico Department of Energy & Minerals
P. O. Box 2088
Santa Fe, New Mexico 87501

RECEIVED
AUG 17 1981
OIL CONSERVATION DIVISION
SANTA FE

RE: Downhole Commingling Application
S. J. Sarkeys No. 4
Section 23, T-21-S, R-37-E

Dear Sir:

ARCO Oil and Gas Company requests administrative approval under the provisions of Rule 303-C to commingle downhole production from the Blinebry and Drinkard zones of the S. J. Sarkeys No. 4 located in Section 23, T-21-S, R-37-E, of Lea County, New Mexico.

Blinebry and Drinkard production on this lease is presently being commingled in the surface facilities (Order #PC-219) with no evidence of fluid incompatibility. Since the crudes are commingled at the battery before sale, no change in value will result from commingling the production downhole. Ownership of both zones is common and correlative rights will not be violated.

This well produces from a maximum depth 6586' and is therefore allowed a commingled production rate up to 40 BOPD. The water production limit is 40 BWPD from each zone.

The S. J. Sarkeys No. 4 produces 2 BOPD + 1 BWPD + 11 MCFGPD by natural flow from the Blinebry zone. The measured bottom hole pressure is 431 psia.

The Drinkard Zone was shut-in in 1976. Final production in December, 1975 was 1 BOPD + 4 MCFGPD by natural flow. The Drinkard Zone produced 6 BOPD + 1 BWPD + 70 MCFGPD during a 24-hour test in May, 1981 and has a bottom hole pressure of 1007 psia. Downhole commingling will allow economical production from the Drinkard zone.

	Oil	Gas	Oil	Gas
Bl.	2	11	25%	14%
Dk	6	70	75%	86%

Additional information, such as decline curves, Form C-116-A, List of Offset Operators, and lease and well information is included as required by Rule 303-C. Offset operators are being notified by registered mail with a copy of this application.

Thank you for your consideration.

Very truly yours,

Susan M. Tidwell

Susan M. Tidwell

ST:fd

Attachments

cc: NMOCC Area Supervisor
P. O. Box 1980
Hobbs, New Mexico 88240

Offset Operators

S. J. SARKEYS #4

1. Operator: ARCO Oil and Gas Company
   P. O. Box 1610
   Midland, Texas 79702

2. Lease, Well, and Location:

   S. J. Sarkeys #4
   330 ' FSL & 990' FEL
   Section 23-21S-37E
   Lea County, New Mexico

3. Producing Zones:

   Blinebry by natural flow.
   Drinkard by natural flow
   Bottom-most perforation at 6586'

4. Commission Order No. Authorizing Dual Completion:

   MC-1615

5. Decline Curves: Attached

6. Fluid Incompatibility:

   Production from these zones is being commingled in the surface facilities of the S. J. Sarkeys' Lease. No evidence of fluid incompatibility has been found. (PC-219)

7. Value of Commingled Fluids:

   As production from both zones is currently priced as sour crude, downhole commingling will not affect the value of the oil.

8. Current Production: See attached C-116.

9. Bottom Hole Pressures:

   Blinebry - 431 psi
   Drinkard - 1007 psi

Pres dif.

10. All Offset Operators are being notified by copy of this application.

OFFSET OPERATORS

ACOMA OIL CORPORATION
812 CONTINENTAL LIFE BLDG.
FORT WORTH, TEXAS 76102

GETTY OIL CORP.
BOX 1231
MIDLAND, TEXAS 79702

GULF ENERGY & MINERALS COMPANY
BOX 1150
MIDLAND, TEXAS 79702

MOBIL OIL CORPORATION
BOX 633
MIDLAND, TEXAS 79702

SHELL OIL COMPANY
P. O. BOX 1509
MIDLAND, TEXAS 79702

NEW MEXICO OIL CONSERVATION COMMISSION
GAS – OIL RATIO TESTS

C-116
Revised 1-1-65

Operator: ARCO Oil and Gas Company
Division of Atlantic Richfield Company
Pool: Blinebry
County: Lea
Address: P. O. Box 1710, Hobbs, New Mexico 88240
TYPE OF TEST – (X): Scheduled [ ] Completion [ ] Special [X]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT/BBL
S. J. Sarkeys	4-	P	23	21S	37E	5-16-81	S	21/64"	60	4	24	1	39.2°	2	11	5500

Above is a 24 hr. productivity test preparatory to downhole commingling with the Drinkard Zone.

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Susan M Tidwell
(Signature)

Operations Engineer
(Title)

May 26, 1981
(Date)

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
ARCO Oil and Gas Company Division of Atlantic Richfield Co.	Drinkard	Lea

Address	TYPE OF TEST - (X)		
P. O. Box 1710, Hobbs, New Mexico 88240	Scheduled ☐	Completion ☐	Special ☒

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL.
S. J. Sarkeys	4	P	23	21S	37E	5-17-81	S	19/64"	65	0	24	1	39.2°	6	70	11,667

Above is a 24 hr. productivity test preparatory to down hole commingling with the Blinebry zone.

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

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I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Susan M. Tidwell
(Signature)

Operations Engineer
(Title)

May 26, 1981
(Date)

AtlanticRichfieldCompany

Static Reservoir Pressure Survey

To: Susan Tidwell | Office: Midland, Tex | From: V.J. Cummings | Office: Odessa, Tex | Date:

State, Field, (Formation): New Mexico - Ennie - Blinebry | Datum plane: | Field tests conducted by: Special Projects

Lease and well number	Date of test	Well elevation feet DF	Test depth feet DF	Top of perforation feet DF	Hours well shut in	Tubing pressure PSI, GA	Oil level feet, DF	Water level feet, DF	Temperature at test depth deg F	Bottom hole pressure at test depth PSI, GA	Correction test depth to mid of perforation: Feet	Grad. PSI per foot	Total PSI	Bottom hole pressure at Middle perforation PSIG	Correction top of perf. to datum plane: Feet	Grad. PSI per foot	Total PSI	Change from previous test: Date	PSI	Bottom hole press. datum plane PSIG
→ S.J. Sarkeys #4 OT	3-4-81		5300		26	378	None			423	+415	1020	8	431						
State 367 No. 2 WI	3-4-81		5550		26	29	5350	None		545	+203	.332	67	612						

AtlanticRichfieldCompany

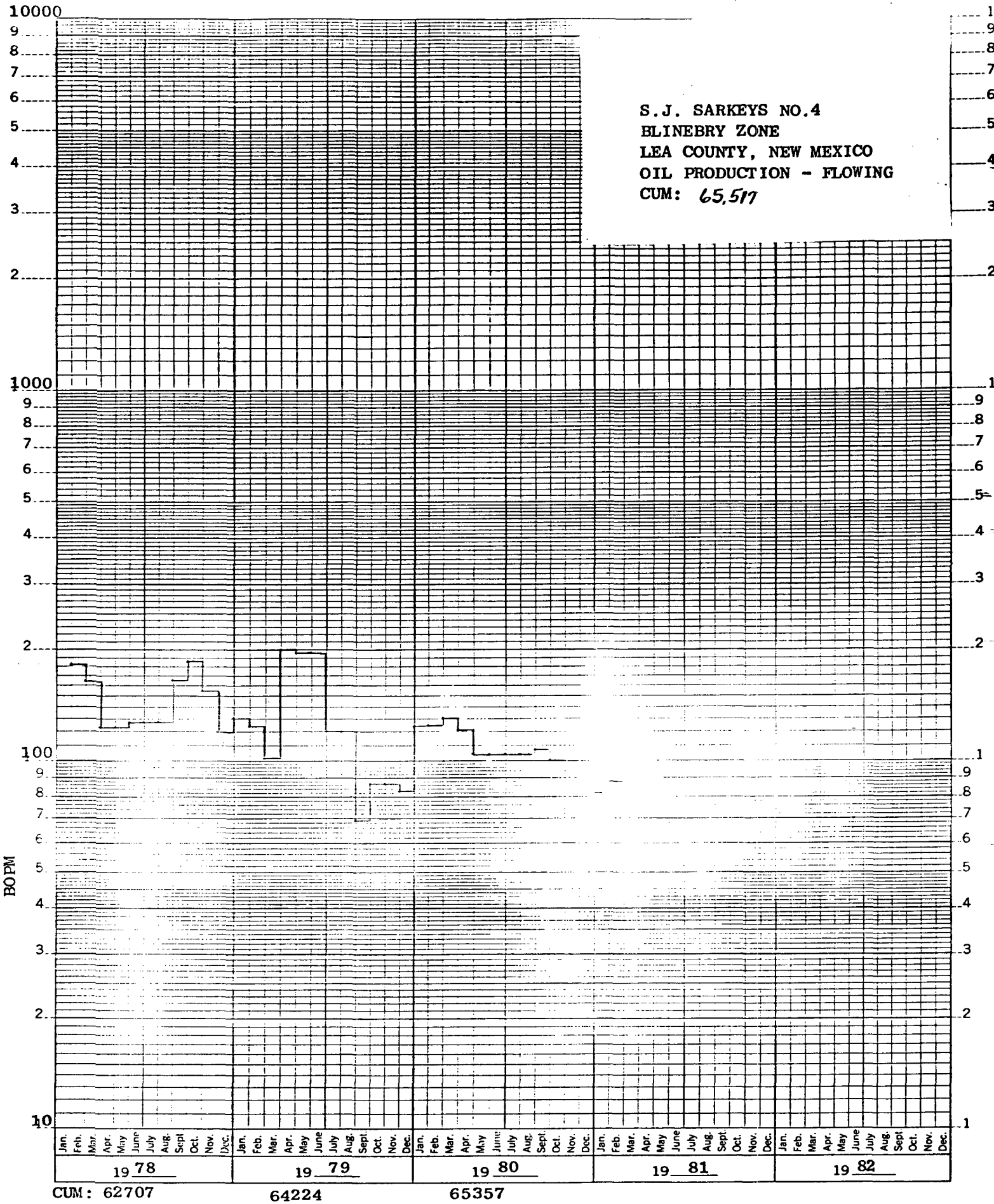
Static Reservoir Pressure Survey

To: Susan Tidwell — Office: Midland, Texas — From: V. J. Cummings — Office: Odessa, Texas — Date:

State, Field, (Formation): New Mexico - Eunice - Drinkard — Field tests conducted by: Special Projects

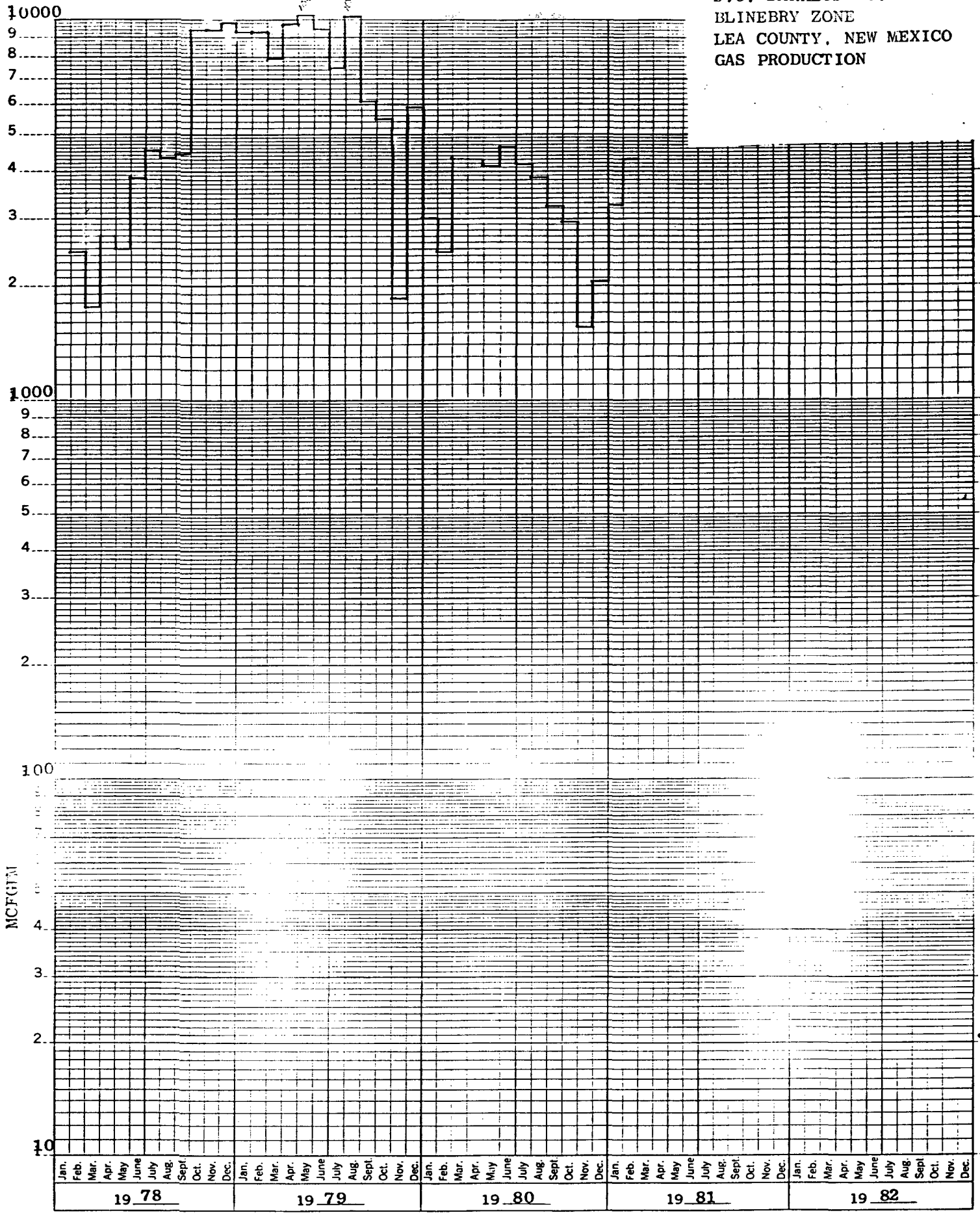
Lease and well number	Date of test	Well elevation feet DF	Test depth feet DF	Top of perforation feet DF	Hours well shut in	Datum plane: Tubing pressure PSI, GA	Datum plane: Oil level feet, DF	Datum plane: Water level feet, DF	Temperature at test depth deg F	Bottom hole pressure at test depth PSI, GA	Correction test depth to Middle perforation: Feet	Correction test depth to Middle perforation: Grad. PSI per foot	Correction test depth to Middle perforation: Total PSI	Bottom hole pressure at Middle perforation PSIG	Correction top of perf. to datum plane: Feet	Correction top of perf. to datum plane: Grad. PSI per foot	Correction top of perf. to datum plane: Total PSI	Change from previous test: Date	Change from previous test: PSI	Bottom hole press. at datum plane PSIG
* S. J. Sarkeys No. 4 LT	3-4-81		6501		27	44	3976	6284		1007	0	.450	0	1007						
State 367 No. 2 LT	3-4-81		6461		27	479	6241	None		567	0	.020	0	567						

Sarkeys No. 4 Las Produced 9-76



46 6690
KEUFFEL & ESSER CO.

S.J. SARKEYS NO.4
BLINEBRY ZONE
LEA COUNTY, NEW MEXICO
GAS PRODUCTION



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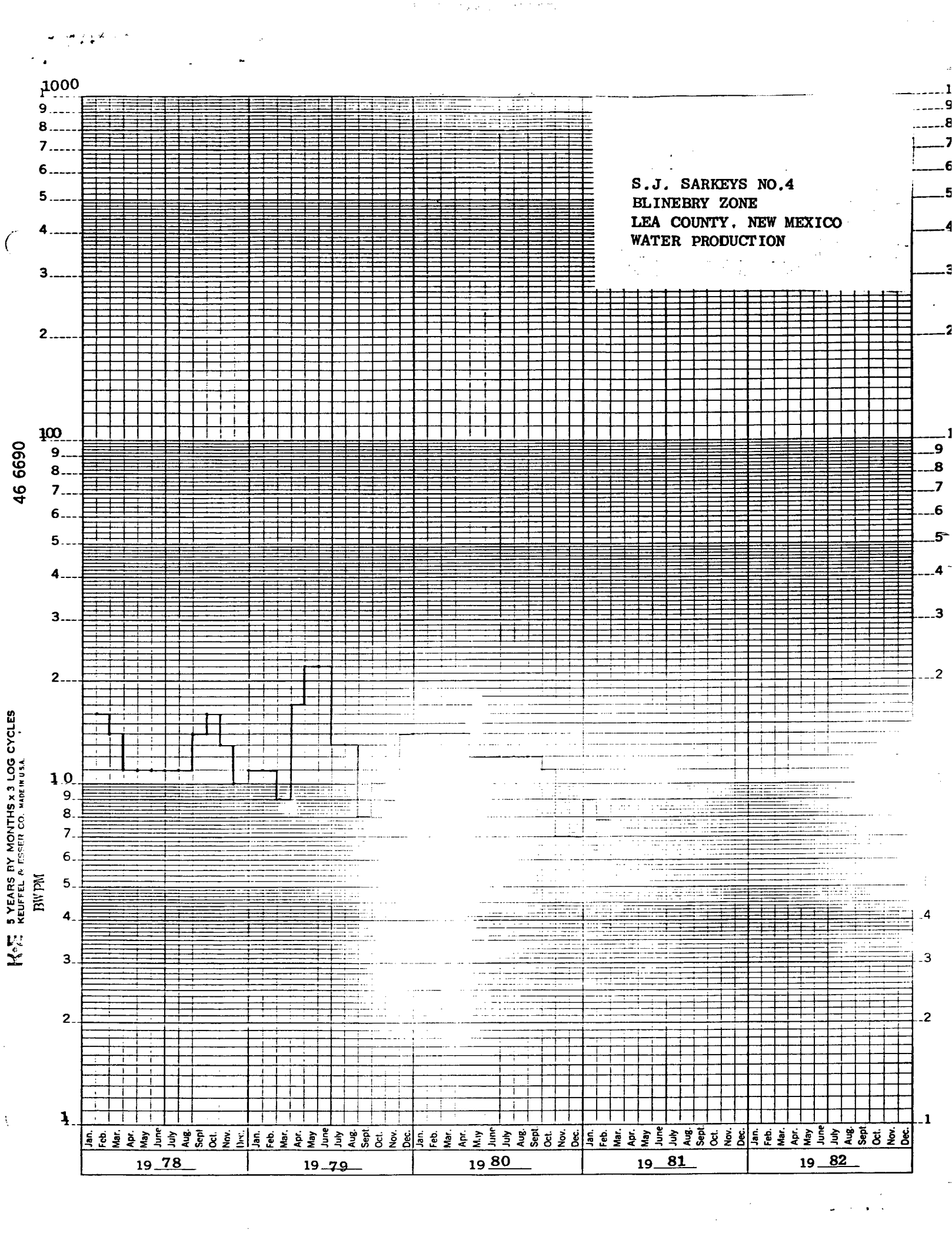

46 6690
5 YEARS BY MONTHS x 3 LOG CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.