DATE: 04/25/95
TIME: 10:29:45
PAGE: 5

LEASE CODE #: 340216
LEASE: BATES UNIT WELL: 1-02
FIELD: BATES , RESERVOIR : MISS
COUNTY: SUMNER , STATE: KS
OPERATOR: PHILLIPS PETROLEUM CO

McGee Energy Services, Inc. and Clients makes no representation or warrants with respect to any of this information.

P H I L L I P S - P R O D U C T I O N - L E D G E R

DATE	OIL, BBL	CUM-OIL	GAS, MCF	CUM-GAS	GOR, CF/BBL	WATER, BBL	WATER CUT, %	DAYS ON
PRIOR	231,208	231,208	0	0	0	155,271	40.18	6988
1/93	552	231,760	0	0	0	1,035	65.22	31
2/93	410	232,170	0	0	0	885	68.34	25
3/93	500	232,670	0	0	0	1,147	69.64	31
4/93	484	233,154	0	0	0	1,110	69.64	30
5/93	517	233,671	0	0	0	1,105	68.13	30
6/93	460	234,131	0	0	0	1,110	70.70	30
7/93	463	234,594	0	0	0	1,147	71.24	31
8/93	467	235,061	0	0	0	1,110	70.39	31
9/93	449	235,510	0	0	0	951	67.93	30
10/93	452	235,962	0	0	0	983	68.50	31
11/93	444	236,406	0	0	0	951	68.17	30
12/93	433	236,839	0	0	0	983	69.42	31
TOT/93	5,631	236,839	0	0	0	12,517		
1/94	417	237,256	0	0	0	994	70.45	31
2/94	391	237,647	0	0	0	910	69.95	28
3/94	429	238,076	0	0	0	1,008	70.15	31
4/94	398	238,474	0	0	0	975	71.01	30
5/94	392	238,866	0	0	0	1,008	72.00	31
6/94	375	239,241	0	0	0	973	72.18	30
7/94	349	239,590	0	0	0	980	73.74	31
8/94	333	239,923	0	0	0	980	74.64	31
9/94	322	240,245	0	0	0	948	74.65	30
10/94	320	240,565	0	0	0	980	75.38	31
11/94	314	240,879	0	0	0	948	75.12	30
12/94	323	241,202	0	0	0	980	75.21	31
TOT/94	4,363	241,202	0	0	0	11,684		
1/95	325	241,527	0	0	0	980	75.10	31
2/95	276	241,803	0	0	0	885	76.23	28
3/95								
4/95								
5/95								
6/95								
YTD/95	601	241,803	0	0	0	1,865		
TOTAL	241,803	241,803	0	0	0	181,337		

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Kansas Cores
PETROLEUM RESERVOIR ENGINEERING
CORE ANALYSIS

1026 NORTH LIGHTNER
WICHITA, KANSAS 67208

July 17, 1966

Re: CORE ANALYSIS REPORT
Beardmore Drilling Co.
Bates #A-2
Sumner County
Kansas

Beardmore Drilling Co.
One-Twenty Building
Wichita, Kansas

Gentlemen:

The cores from your well, Bates #A-2, Sumner County, Kansas have been analysed for permeability, porosity, and residual saturation of oil and water. The data will be found tabulated on the following pages and indicated on the coregraph. The data averages and reserve estimates will be found at the end of this report.

The following is a short discussion of the section cored and analysed.

3723' to 3732' - Oil Productive

A soft dark brown sucrosic to vugular dolomite was found here in the top of the Mississippian formation. Both the permeabilities and porosities were better than average for the field. The water percentages and oils were well in line for water free production. A good, long lasting commercial well can be expected from this zone.

Yours very truly,

KANSAS CORES

Ivan L. Stuber

Attachments
cc: 6 copies to Beardmore Drlg. Co., Wichita, Ks.

McGee Energy Services, Inc. and Clients makes no representation or warrants with respect to any of this information.

Zones of porosity and shows of oil were encountered and observed as follows:

Kansas City 3058 (-1759)

3073-77	Mottled fossiliferous pseudo oolitic gray-white limestone. Trace oolitic and vugular porosity. No shows.
3084-3105	Fossiliferous sucrosic leeched porous cherty white limestone. No shows.
3138-45	Fine mealy slightly leeched gray limestone, fair mealy porosity. No shows.
3197-3212	Fine dense tan and gray mottled limestone with streaks of fine oolicastic porous cream limestone. No shows.

Mississippian Chert 3713 (-2414)

3713-22	Leeched white and gray chert grade to leeched to fresh white chert at base. Very slight trace of solution porosity. No shows.

Mississippian Dolomite 3722 (-2423)

3722-23	Crystalline fossiliferous porous dolomitic cream limestone, fair oil taste and fluorescence.
Core #1 3723-32	Rec. 8½'
3723-24	Partly coarse crystalline dolomitic limestone to sucrosic fossiliferous well saturated porous limey dolomite, fair sucrosic porosity and scattered fine vuggy porosity.
3724-25	Partly crystalline to sucrosic well saturated limey dolomite. Good fossiliferous porosity.
3725-26	Crystalline fossiliferous dolomitic limestone. Good even saturation but with slight decrease in porosity from foot above.

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3726-27	Fine crystalline dense matrix dolomite with very excellent fossil cast porosity (worm eaten). Good even saturation - one 6" vertical fracture at base.
3727-28	Fine crystalline to sucrosic dense matrix dolomite. Very excellent worm eaten porosity as above. Some scattered calcite crystals. Good even saturation.
3728-29	Fine crystalline to sucrosic dense matrix well saturated dolomite. Excellent fine vugular and worm eaten porosity. 2" band at base of fine crystalline dense tight glazed dolomite with light even stain and fluorescence too tight for the passage of fluid.
3729-30	Partly crystalline to sucrosic well saturated dolomitic limestone. Fair to good fossiliferous and fine vugular porosity.
3730-31	Partly crystalline to sucrosic fossiliferous porous well saturated limey dolomite, good fossiliferous and sucrosic porosity.
3731-31½	Partly crystalline to sucrosic well saturated fossiliferous dolomitic limestone, fair to good fossiliferous and sucrosic porosity.
3731½-32	Not recovered

In view of the excellent saturation, porosity and permeability of the Mississippian Core, 5½ casing was cemented 8' off bottom at 3724, preparatory to further testing with cable tools.

Yours very truly,

H. Deane Jirrels

H. Deane Jirrels
Petroleum Geologist

Re: CORE DESCRIPTION
Beardmore Drlg. Co.
Bates #A-2
Sumner County
Kansas

CORE #1 3723' to 3732' Cut 9' Rec. 9'

3723--26 Soft light brown finely crystalline slightly fossiliferous dolomite: Good stain and oder

3726--27 Soft dark brown sucrosic to vugular slightly fossiliferous dolomite: Good stain and oder

3727--28 Hard very finely crystalline to slightly sucrosic brown dolomite, numerous clear to slightly yellow calcite inclusions: Good stain and oder

3728--29 Soft brown finely crystalline to sucrosic dolomite, trace hard grey dense dolomite: Good stain and oder

3729--30 Soft brown finely crystalline dolomite with few thin bands dark grey crystalline dolomite: Good stain and oder

3730--32 Soft brown finely crystalline dolomite with mottled appearance from dark grey patches dolomite, few fossils: Good stain and oder

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Kansas Cores

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS 67208

WELL Bates #A-2 COUNTY Sumner STATE Kansas

COMPANY Beardmore Drilling DATE 7-17-66 FILE No. S-677

FIELD _____ TYPE CORES Diamond ANALYST IS

ANALYSIS DATA AND INTERPRETATIONS

SAMPLE No.	DEPTH	PERMEABILITY MILLIDARCYS		POROSITY %	SATURATION WATER % PORE SPACE	SATURATION OIL % PORE SPACE	PROBABLE PRODUCTION	REMARKS
		HORIZONTAL	VERTICAL					
1	3723-24	22.1	6.8	15.9	42.4	12.2	Oil	
2	3724-25	67.6	40.7	19.7	35.9	13.0	Oil	
3	3725-26	37.9	7.0	15.4	34.9	13.9	Oil	
4	3726-27	165	130	25.8	30.3	11.5	Oil	
5	3727-28	83.9	46.1	23.0	39.5	11.4	Oil	
6	3728-29	77.3	62.6	22.8	33.5	13.0	Oil	
7	3729-30	115	67.9	19.7	40.0	16.0	Oil	
8	3730-31	79.5	37.6	18.1	39.4	15.7	Oil	
9	3731-32	90.2	64.0	17.6	40.4	18.5	Oil	

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Kansas Cores

PETROLEUM RESERVOIR ENGINEERING

WICHITA, KANSAS

COMPANY Beardmore Drilling DATE 7-17-66

WELL Bates #A-2 ANALYST IS

FIELD

COUNTY Sumner STATE Kansas

The analyses and interpretations are based on material brought to Kansas Cores by the client, and such data and interpretations are accessible only to that company which the client represents. Kansas Cores makes no warranty and makes no guarantee for the interpretations and opinions of the data. Our opinions of an analysis are placed at the discretion of the operator.

PERMEABILITY MILLIDARCYS O—O

200 150 100 50 0

POROSITY—% X—X

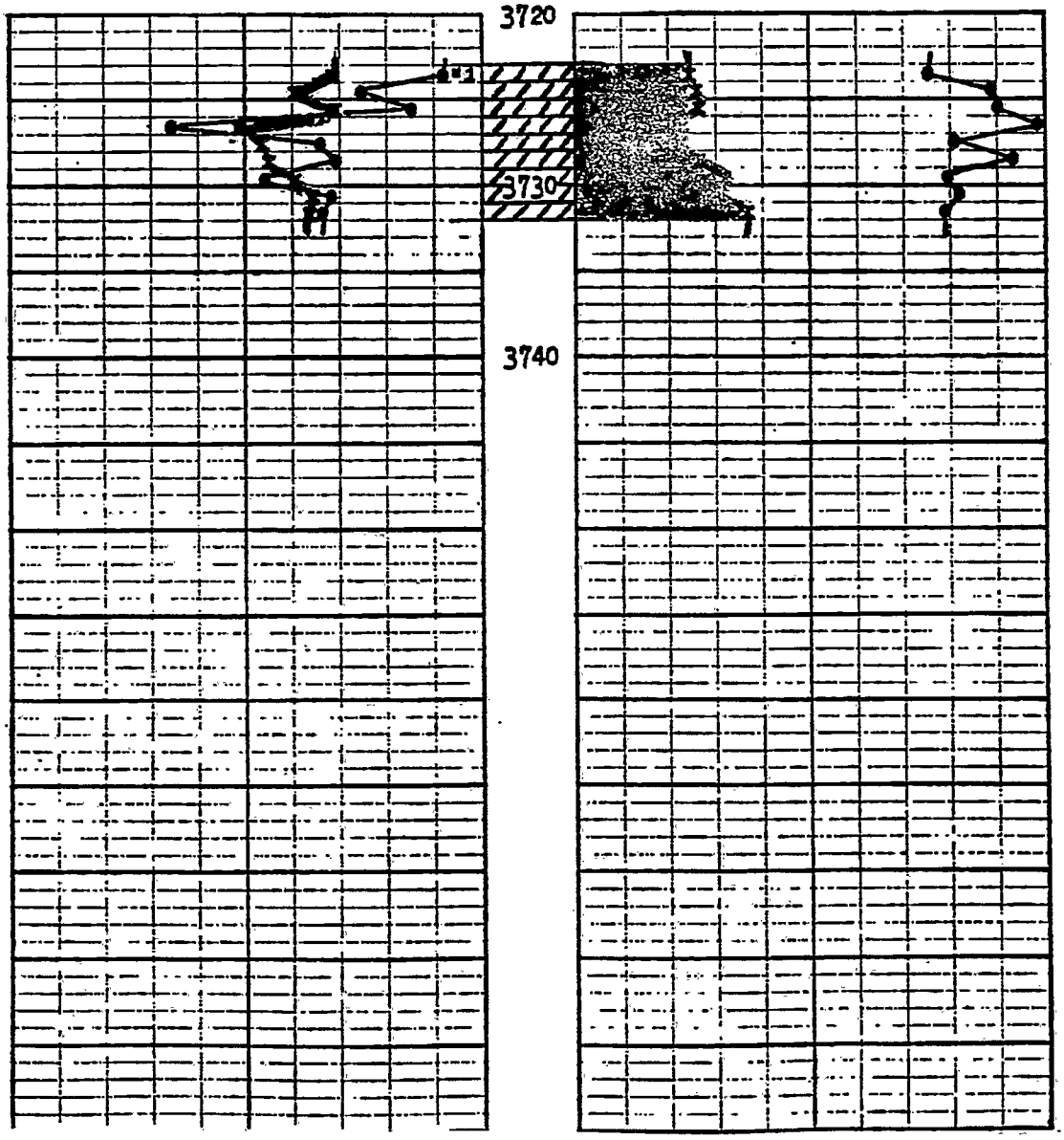
20 10 0

CONNATE WATER % SATURATION

0 70 60 50 40 O—O

OIL % PORE SATURATION X—X

0 10 20



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Kansas Cores

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS

DATA AVERAGES AND OIL RECOVERY FIGURES

DEPTH	3723'-3732'
FEET OF PRODUCTION FORMATION OF SECTION ANALYZED	9
AVERAGE PERMEABILITY IN MILLIDARCYS	82.1
AVERAGE POROSITY, PER CENT	19.8
AVERAGE TOTAL WATER % OF PORE SPACE	37.4
AVERAGE RESIDUAL OIL % OF PORE SPACE	13.9
AVERAGE CONNATE WATER CALCULATED % OF PORE SPACE	29.9
ESTIMATED FORMATION VOLUME FACTOR — USED IN CALCULATING RECOVERABLE OIL	1.20
PRODUCTIVE CAPACITY — PRODUCTIVE FEET X AVERAGE PERMEABILITY IN MILLIDARCYS	739
RECOVERABLE OIL BY WATER DRIVE — BBLS. PER ACRE FOOT	684
RECOVERABLE OIL BY GAS EXPANSION — BBLS. PER ACRE FOOT	410*

*From original bottom hole pressure to zero

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