



DATE: 04/25/95
TIME: 10:30:19
PAGE: 9

LEASE CODE #: 340216

LEASE: BATES UNIT WELL: 2-02

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.

PHILLIPS - PRODUCTION - 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	29,808	29,808	0	0	0	262,229	89.79	4453
1/93	0	29,808	0	0	0	0	0.00	0
2/93	0	29,808	0	0	0	0	0.00	0
3/93	0	29,808	0	0	0	0	0.00	0
4/93	0	29,808	0	0	0	0	0.00	0
5/93	0	29,808	0	0	0	0	0.00	0
6/93	0	29,808	0	0	0	0	0.00	0
7/93	0	29,808	0	0	0	0	0.00	0
8/93	0	29,808	0	0	0	0	0.00	0
9/93	0	29,808	0	0	0	0	0.00	0
10/93	0	29,808	0	0	0	0	0.00	0
11/93	0	29,808	0	0	0	0	0.00	0
12/93	0	29,808	0	0	0	0	0.00	0
TOT/93	0	29,808	0	0	0	0		
1/94	0	29,808	0	0	0	0	0.00	0
2/94	0	29,808	0	0	0	0	0.00	0
3/94	0	29,808	0	0	0	0	0.00	0
4/94	0	29,808	0	0	0	0	0.00	0
5/94	0	29,808	0	0	0	0	0.00	0
6/94	0	29,808	0	0	0	0	0.00	0
7/94	0	29,808	0	0	0	0	0.00	0
8/94	0	29,808	0	0	0	0	0.00	0
9/94	0	29,808	0	0	0	0	0.00	0
10/94	0	29,808	0	0	0	0	0.00	0
11/94	0	29,808	0	0	0	0	0.00	0
12/94	0	29,808	0	0	0	0	0.00	0
TOT/94	0	29,808	0	0	0	0		
1/95	0	29,808	0	0	0	0	0.00	0
2/95	0	29,808	0	0	0	0	0.00	0
3/95								
4/95								
5/95								
6/95								
YTD/95	0	29,808	0	0	0	0		
TOTAL	29,808	29,808	0	0	0	262,229		

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING

CORE ANALYSIS

March 23, 1966

1026 NORTH LIGHTNER
WICHITA, KANSAS 67208

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

Beardmore Drilling Co.
One-Twenty Building
Wichita, Kansas

Gentlemen:

The cores from your well, Bates #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 recovery figures will be found at the end of this report.

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

3723' to 3746' - Oil Productive

This upper section of the Mississippian was composed for the most part of a fairly uniform gray-brown crystalline limey dolomite. Good, even permeabilities were measured, and the porosities were average. Good oil saturation was noted throughout, and the water percentages are well in line for water free oil production. A good commercial well can be expected from this zone.

3748' to 3757' - Oil Productive

This zone is described separate because of a permeability barrier between the two zones. Also this zone was a soft brown sucresic dolomite with lower oil percentages indicating a higher GOR. The waters reflected the dolomitic nature of the samples, being higher than that above. The production from this zone will be an important supplement to that from above. The water contact was found at 3757'.

Yours very truly,

KANSAS CORES

Ivan L. Stuber
Ivan L. Stuber

Attachments

cc: 8 copies to Beardmore Drlg. Co., Wichita, Ks.

Re: CORE DESCRIPTION
Beardmore Drlg. Co.
Bates #2
Sumner Co., Kansas

<u>CORE #1</u>	<u>3723' to 3746'</u>	<u>But 23'</u>	<u>Rec. 23'</u>
3723--25	Soft light brown finely sucresic to slightly crystalline delemite, trace white calcite inclusions: Good stain and eder		
3725--26	Soft dark grey-brown dense to slightly sucresic delemite: Good stain		
3726--27	Hard dark brown sucresic to finely crystalline delemite: Good stain		
3727--35	Soft brown coarse crystalline limey delemite with few thin streaks dark brown dense delemite: Good stain and eder		
3735--36	Hard finely crystalline dark brown limey delemite: Good stain		
3736--39	Soft coarse crystalline limey delemite, few thin streaks hard dark brown delemite: Good stain and eder		
3739--40	Same as above with some clear calcite inclusions: Good stain & eder		
3740--44	Soft finely crystalline brown limey delemite: Good stain and eder		
3744--45	Hard dark brown dense to finely crystalline limey delemite with some grey chert: Good stain and eder		
3745--46	Soft light to medium brown finely crystalline limey delemite: Good		

<u>CORE #2</u>	<u>3747' to 3762'</u>	<u>Cut 15'</u>	<u>Rec. 15'</u>
3747--48	Hard dark grey-brown dense to slightly crystalline delemite, 4" streak blue-grey chert top: Good stain and eder in delemite		
3748--49	Soft brown finely crystalline delemite, numerous calcite inclusions: Good stain and eder		
3749--50	Hard brown dense to finely crystalline delemite, some dark brown delemite streaks: Good stain and eder		
3750--53	Soft brown sucresic delemite: Good stain and eder		
3753--54	Same as above with some dirty grey chalky looking cherty matrix: Good stain and eder		
3754--56	Soft brown sucresic delemite: Good stain and eder		
3756--57	Same as above with some dark dirty brown delemite, trace chert: Good stain and eder		
3757--58	Soft finely crystalline to sucresic delemite: Good stain and eder, slightly streaked		
3758--60	Dirty hard grey-brown finely crystalline delemite: Trace stain top		
3760--62	Hard tight light grey-brown crystalline delemite; trace light grey chalky chert bottom: No show		

CORE #3

3763' to 3788'

Cut 25'

Rec. 25'

- 3763--71 Hard dirty grey@brown dense to finely crystalline dolomite:
No show
- 3771--72 Hard light grey-grey dolomite with some dirty cherty looking
limestone: No show
- 3772--73 Very hard dark grey-brown coarsely crystalline to some
dense limestone: No show
- 3773--74 Hard dense grey-black limestone with some black carbonaceous
partings and streaks: No show
- 3774--75 Hard dark grey coarsely crystalline slightly fossiliferous
limestone: Some scattered and splotchy staining, some slight
vertically fractured limestone, filled with calcite, trace
staining along fractures
- 3775--76 Same as above, no fractures: Trace staining
- 3776--77 Hard medium crystalline dark grey-brown fossiliferous lime-
stone: No show
- 3777--80 Hard coarse crystalline dark grey limestone, fossiliferous
in part: No show
- 3780--82 Hard dark grey-black dense limestone, some carbonaceous shaley
looking streaks and partings: No show
- 3782--84 Hard coarse crystalline dark grey limestone, trace fossils:
No show
- 3784--85 Very hard as above: No show
- 3785--88 Hard coarse crystalline limestone, some blue-grey chert: No show

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS 67208

WELL Bates #2 COUNTY Sumner STATE Kansas
COMPANY Beardmore Drilling DATE 3-23-66 FILE NO. S-658
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	2.1	1.0	20.4	55.7	9.2	011	
	24							
2	3724	2.0	1.0	20.2	54.3	9.3	011	
	25							
3	3725	3.9	2.6	19.3	60.0	10.7	011	
	26							
4	3726	31.7	27.3	20.8	38.9	15.0	011	
	27							
5	3727	26.1	22.2	14.5	35.6	12.2	011	
	28							
6	3728	33.5	33.6	15.1	31.7	12.5	011	
	29							
7	3729	24.5	23.9	15.6	42.3	12.3	011	
	30							
8	3730	28.3	22.8	14.8	34.7	11.6	011	
	31							
9	3731	25.0	24.2	14.6	36.5	11.7	011	
	32							
10	3732	25.1	24.2	13.9	30.7	15.3	011	
	33							
11	3733	28.6	32.3	14.1	39.3	10.7	011	
	34							
12	3734	20.5	14.7	14.1	38.9	14.0	011	
	35							
13	3735	7.8	11.2	15.5	37.8	13.4	011	
	36							
14	3736	58.6	46.3	18.3	37.0	13.4	011	
	37							
15	3737	29.9	2.3	15.4	39.6	14.1	011	
	38							
16	3738	23.3	22.7	16.3	40.7	15.8	011	
	39							
17	3739	27.1	22.5	15.9	41.1	15.2	011	
	40							
18	3740	35.6	32.6	17.6	31.5	16.3	011	
	41							
19	3741	28.8	27.6	17.3	33.6	15.8	011	
	42							
20	3742	30.7	24.8	14.5	38.8	14.9	011	
	43							
21	3743	22.5	18.1	16.7	37.6	13.8	011	
	44							
22	3744	6.8	5.8	16.5	38.9	13.0	011	
	45							
23	3745	25.2	5.1	15.6	43.9	13.8	011	
	46							

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS 67208

WELL _____ COUNTY _____ STATE _____

COMPANY _____ DATE _____ FILE No. _____

FIELD _____ TYPE CORES _____ ANALYST _____

ANALYSIS DATA AND INTERPRETATIONS

SAMPLE No.	DEPTH	PERMEABILITY MILLIDARCYS		POROSITY %	SATURATION WATER % PORE SPACE	SATURATION OIL % PORE SPACE	PROBABLE PRODUCTION	REMARKS
		HORIZONTAL	VERTICAL					
24	3747 48	0.0	0.0	14.9	53.2	14.8	No Perm	
25	3748 49	34.6	20.0	17.0	36.8	13.4	Oil	
26	3749 50	24.1	26.5	18.7	42.7	11.0	Oil	
27	3750 51	37.6	35.2	21.3	46.0	10.2	Oil	
28	3751 52	25.5	22.2	19.2	52.1	11.8	Oil	
29	3752 53	26.9	12.7	20.7	44.7	10.5	Oil	
30	3753 54	33.4	37.9	21.8	46.8	9.1	Oil	
31	3754 55	56.3	62.8	24.2	34.7	8.5	Oil	
32	3755 56	32.1	30.2	23.0	42.6	10.2	Oil	
33	3756 57	13.4	6.5	20.0	45.3	11.5	Oil	
34	3757 58	27.7	29.6	22.1	49.3	5.8	Water	
35	3758 59	24.5	20.3	19.0	54.1	1.2	Water	
36	3759 60	2.8	3.0	16.3	68.5	0.0	Water	
37	3760 61	0.0	0.0	12.0	73.5	0.0	No Perm	
38	3761 62	0.0	0.0	14.1	76.1	0.0	No Perm	

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS 67208

WELL _____ COUNTY _____ STATE _____

COMPANY _____ DATE _____ FILE No. _____

FIELD _____ TYPE CORES _____ ANALYST _____

ANALYSIS DATA AND INTERPRETATIONS

SAMPLE No.	DEPTH	PERMEABILITY MILLIDARCYS		POROSITY %	SATURATION WATER % PORE SPACE	SATURATION OIL % PORE SPACE	PROBABLE PRODUCTION	REMARKS
		HORIZONTAL	VERTICAL					
39	3763	0.0	0.0	15.6	65.1	0.0	No Perm	
	64							
40	3764	0.0	0.0	18.0	68.3	0.0	No Perm	
	65							
41	3765	0.0	0.0	13.8	71.4	0.0	No Perm	
	66							
42	3766	1.0	0.0	17.2	62.0	0.0	Water	
	67							
43	3767	1.8	0.0	17.3	67.9	0.0	Water	
	68							
44	3768	0.0	0.0	14.1	64.8	0.0	No Perm	
	69							
45	3769	0.0	0.0	16.1	59.2	0.0	No Perm	
	70							
46	3770	0.0	0.0	15.8	63.4	0.0	No Perm	
	71							
47	3771	0.0	0.0	16.1	77.4	0.0	No Perm	
	72							
48	3772	0.0	0.0	5.4	79.8	0.0	No Perm	
	73							
49	3774	0.0	0.0	6.6	51.7	5.3	No Perm	
	75							
50	3775	0.0	0.0	7.7	53.9	1.0	No Perm	
	76							
51	3776	0.0	0.0	8.4	53.7	0.0	No Perm	
	77							
52	3777	6.8	5.9	8.0	54.2	0.0	Water	
	78							
53	3778	3.0	2.2	6.9	53.7	0.0	Water	
	79							
54	3779	7.4	5.7	6.1	51.6	0.0	Water	
	80							
55	3780	2.1	2.0	7.7	50.6	0.0	Water	
	83							
56	3783	1.4	0.0	7.0	52.8	0.0	Water	
	84							
57	3784	0.0	0.0	7.6	47.6	0.0	No Perm	
	85							
58	3785	0.0	0.0	7.5	55.7	0.0	No Perm	
	86							
59	3786	0.0	0.0	5.5	51.0	0.0	No Perm	
	87							
60	3787	0.0	0.0	5.4	52.1	0.0	No Perm	
	88							

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS

DATA AVERAGES AND OIL RECOVERY FIGURES

	3723'-3746'	3748'-3757'		
DEPTH				
FEET OF PRODUCTION FORMATION OF SECTION ANALYZED	23	9		
AVERAGE PERMEABILITY IN MILLIDARCYS	23.8	31.5		
AVERAGE POROSITY, PER CENT	16.0	20.7		
AVERAGE TOTAL WATER % OF PORE SPACE	39.9	43.5		
AVERAGE RESIDUAL OIL % OF PORE SPACE	13.4	10.7		
AVERAGE CONNATE WATER CALCULATED % OF PORE SPACE	31.9	34.8		
ESTIMATED FORMATION VOLUME FACTOR - USED IN CALCULATING RECOVERABLE OIL	1.20	1.24		
PRODUCTIVE CAPACITY - PRODUCTIVE FEET X AVERAGE PERMEABILITY IN MILLIDARCYS	548	284		
RECOVERABLE OIL BY WATER DRIVE - BBLs. PER ACRE FOOT	537	673		
RECOVERABLE OIL BY GAS EXPANSION - BBLs. PER ACRE FOOT	322*	404*		

*From original bottom hole pressure to zero

Kansas Cores

PETROLEUM RESERVOIR ENGINEERING WICHITA, KANSAS

COMPANY Beardmore Drilling

DATE 3-23-66

WELL Bates #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

80 60 40 20 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

