Kansas Cores

PETROLEUM RESERVOIR ENGINEERING

WICHITA, KANSAS

COMPANY Beardmore Drilling DATE 12-4-57

WELL Nyberg #1 ANALYST IS

FIELD Wildcat

COUNTY Sumner STATE Kansas

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PERMEABILITY MILLIDARCYS O—O

400 300 200 100 0

POROSITY—% X—X

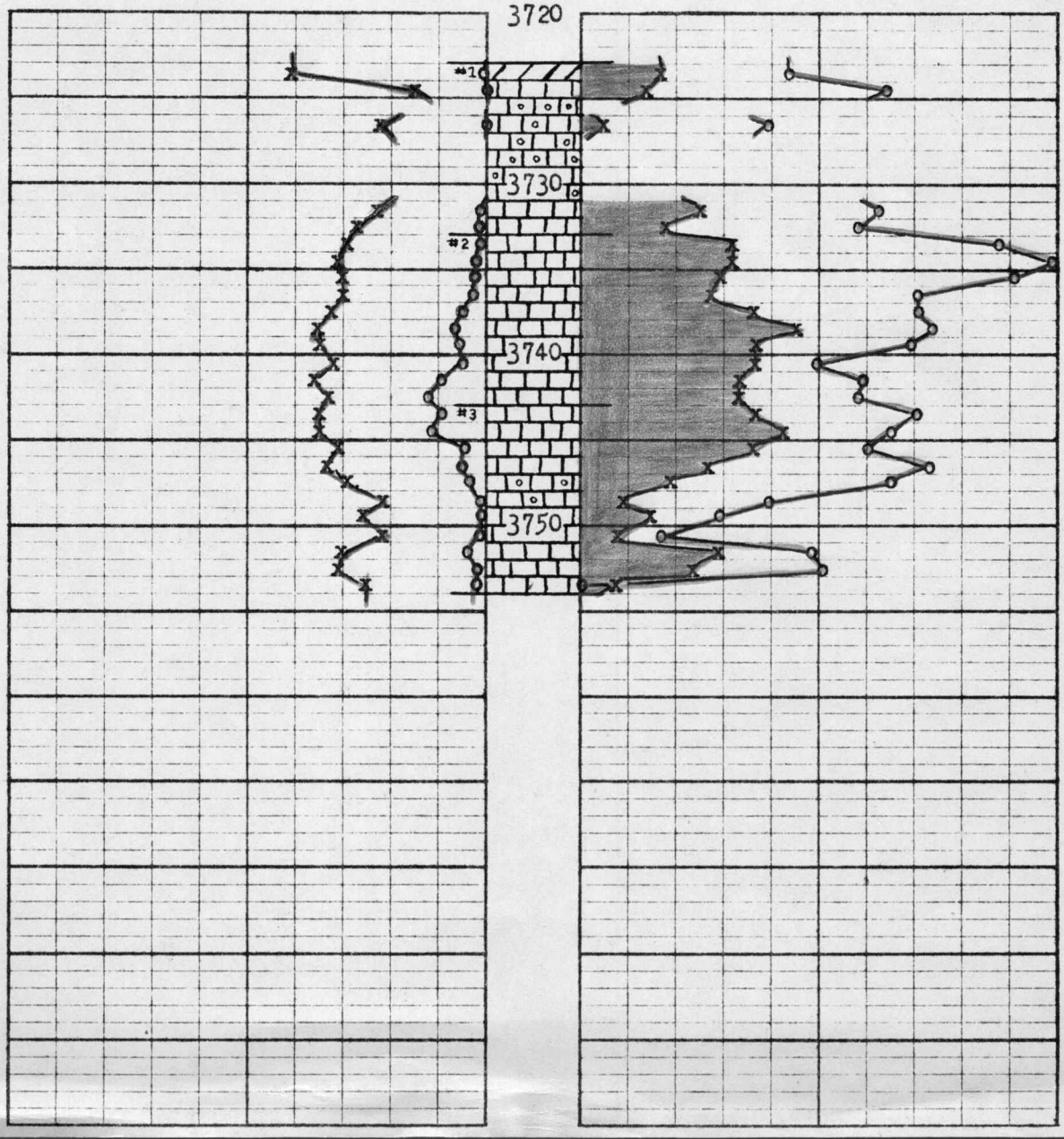
20 10 0

CONNATE WATER % SATURATION O—O

0 80 70 60 50

OIL % PORE SATURATION X—X

0 10 20



Kansas Cores
PETROLEUM RESERVOIR ENGINEERING
CORE ANALYSIS
1026 NORTH LIGHTNER
WICHITA, KANSAS

Dec. 4, 1957

Re: CORE ANALYSIS REPORT
Beardmore Drlg. Co.
Nyberg #1
Sumner County
Kansas

Beardmore Dlg. Co.
827 Beacon Bldg.
Wichita, Kansas

Gentlemen:

The cores from your well, Nyberg #1, 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 3731' - Non Productive

With the exception of the top ½' of this section, which was a sucrosic dolomite, the cores analysed from this zone were from a very hard and tight cherty limestone with very streaked staining. The lack of any permeability in these samples prohibits production of any kind.

3731' to 3748' - Oil Productive

Good, even oil saturation was encountered throughout this zone, with fair permeabilities and porosities. The water percentages show a marked and consistent increase at 3740', along with an increase in permeabilities. This indicates that some water will be produced with the oil from this zone. It should be noted that the reserves figured for this zone include both the water and oil. A commercial well can be expected at this depth. The water contact was found at 3748'.

Yours very truly,

KANSAS CORES

Ivan L. Stuber

Ivan L. Stuber

Attachments
cc: 7 copies to Beardmore Drlg., Wichita, Ks.
1 copy to KANSAS CORES, Wichita, Ks.

Re: CORE DESCRIPTION
Beardmore Drlg. Co.
Nyberg #1
Sumner County
Kansas

CORE #1

3723' to 3733' Cut 10' Rec. 10'

½' Hard tanish-grey sucrosic dolomite with streaks of hard dark brown sucrosic dolomite: Fair stain, good odor

1½' Hard grey coarsely crystalline and fossiliferous limestone with few streaks of slightly dolomitic crystalline limestone: Fair stain and odor

1' Hard crystalline white limestone with some black chert nodules and streaks: No stain or odor

1' Brown slightly crystalline dolomitic limestone with streaks and inclusions of black chert: Poor odor, some staining around chert nodules

3½' Cherty white crystalline limestone: No stain or odor

2½' Soft grey slightly dolomitic crystalline limestone, few laminations of hard white limestone: Good stain and odor

CORE #2

3733' to 3743' Cut 10' Rec. 10'

5' Soft light grey slightly fossiliferous dolomitic limestone: Good stain and odor

5' Dark grey slightly fossiliferous dolomitic limestone, few streaks black sucrosic dolomitic, becoming more dolomitic toward bottom: Good stain and odor

CORE #3

3743' to 3754' Cut 11' Rec. 11'

4' Soft dark grey slightly fossiliferous dolomitic limestone with few laminations of hard brown sucrosic dolomite: Good stain and odor

2' Same as above with few chert nodules: Good odor, good slightly streaked stain

1' Same as above: Poor streaked stain

2' Hard grey dirty crystalline limestone with few laminations of dolomitic limestone: Poor odor, fair streaked stain in dolomitic limestone

1' Dolomitic limestone and crystalline white limestone laminations: Fair stain in dolomite

1' Same as above with numerous small clear calcite crystals: Fair stain and odor, streaked

1' Same as above: Very slight stain, streaked

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PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS

WELL Nyberg #1 COUNTY Sumner STATE Kansas

COMPANY Beardmore Drilling DATE 12-4-57 FILE No. S-328

FIELD Wildcat 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	3.0	1.2	20.8	68.6	8.2	Low Perm	
2	3724 25	0.0	0.0	7.6	58.5	6.4	No Perm	
3	3726 27	0.0	0.0	11.2	70.5	2.1	No Perm	
4	3731 32	4.1	3.2	11.7	59.0	12.3	Oil	Vertical fractures
5	3732 33	3.8	1.0	14.0	61.0	8.3	Oil	
6	3733 34	3.8	3.2	14.7	46.8	15.7	Oil	
7	3734 35	9.8	6.4	15.7	39.8	15.6	Oil	
8	3735 36	12.2	6.2	15.0	44.6	14.9	Oil	
9	3736 37	13.5	10.0	15.1	54.7	13.3	Oil	
10	3737 38	25.1	22.1	16.0	54.6	17.8	Oil	
11	3738 39	38.7	24.6	18.0	53.2	22.0	Oil	
12	3739 40	33.4	26.2	17.8	55.4	18.1	Oil	
13	3740 41	31.0	17.4	16.9	65.5	17.8	Oil & Water	
14	3741 42	48.2	21.7	18.0	60.5	16.4	Oil & Water	
15	3742 43	61.5	46.3	16.9	60.3	16.4	Oil & Water	

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PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS

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					
16	3743 44	46.1	42.8	17.6	54.6	18.7	Oil & Water	
17	3744 45	54.8	41.7	17.6	57.9	21.0	Oil & Water	
18	3745 46	24.9	18.5	15.4	59.6	17.8	Oil & Water	
19	3746 47	27.2	12.2	17.0	53.3	13.0	Oil & Water	
20	3747 48	14.3	9.8	14.8	57.1	9.3	Oil & Water	
21	3748 49	4.5	1.2	10.8	70.5	4.4	Water	
22	3749 50	3.0	1.0	13.0	76.5	7.3	Water	
23	3750 51	4.2	1.8	11.7	82.1	4.1	Water	
24	3751 52	26.7	22.2	15.2	65.7	14.6	Water	
25	3752 53	10.0	3.7	15.4	64.5	11.7	Water	
26	3753 54	6.3	1.9	13.1	90.7	3.5	Water	

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DATA AVERAGES AND OIL RECOVERY FIGURES

DEPTH	3731'-3740'	3740'-3748'		
FEET OF PRODUCTION FORMATION OF SECTION ANALYZED	9	8		
AVERAGE PERMEABILITY IN MILLIDARCYS	16.6	38.5		
AVERAGE POROSITY, PER CENT	15.2	16.8		
AVERAGE TOTAL WATER % OF PORE SPACE	52.1	58.6		
AVERAGE RESIDUAL OIL % OF PORE SPACE	15.3	16.3		
AVERAGE CONNATE WATER CALCULATED % OF PORE SPACE	41.7	46.9		
ESTIMATED FORMATION VOLUME FACTOR — USED IN CALCULATING RECOVERABLE OIL	1.18	1.18		
PRODUCTIVE CAPACITY — PRODUCTIVE FEET X AVERAGE PERMEABILITY IN MILLIDARCYS	149	308		
RECOVERABLE OIL BY WATER DRIVE — BBLS. PER ACRE FOOT	402	374**		
RECOVERABLE OIL BY GAS EXPANSION — BBLS. PER ACRE FOOT	241*	224*		

*From original bottom hole pressure to zero

**Includes both water and oil

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