Kansas Cores
PETROLEUM RESERVOIR ENGINEERING
CORE ANALYSIS
1026 NORTH LIGHTNER
WICHITA KANSAS 67208

Mar. 4, 1974

Re: CORE ANALYSIS REPORT
Maurice L. Brown
R. Crist #2
Finney County, Kans.

Maurice L. Brown
Wichita Plaza
Wichita, Kansas

Gentlemen:

The cores from your well, R. Crist #2, Finney 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.

4628' to 4632' - Non Productive

This zone toward the top of the Mississippian formation consisted of a hard, very finely oolitic to fine crystalline limestone with good streaked oil saturation. The water and oil percentages indicate it to be oil rather than water productive, but the low porosities and lack of any permeability prohibit production of any kind.

4706' to 4714' - Oil Productive

This section was composed for the most part of a medium oolitic with some fossiliferous and some slightly dolomitic limestone. Good oil percentages were measured, and the low waters indicate the zone to be water free. Good permeabilities and fair porosities were measured. A very good commercial well can be expected from this section.

Yours very truly,

KANSAS CORES
Ivan L. Stuber
Ivan L. Stuber

Attachments
cc: 6 copies to Maurice L. Brown, Wichita, Kansas

Re: CORE DESCRIPTION
Maurice L. Brown
R. Crist #2
Finney County
Kansas

CORE #1 | 4622' to 4672' | Cut 50' | Rec. 50'

4622--25 Soft bright green slightly rotten shale, badly washed in coring

4625--28 Hard dense tan-grey to some coarse crystalline limestone, traces dark grey-green shale partings in part: No show

4628--29 Hard dense light grey limestone with some oolitic streaks: Very streaked bleeding oil from streaks of hard finely oolitic lime

4629--31 Hard finely oolitic and some medium crystalline brown-grey limestone with some streaks finely oolitic, tight limestone bleeding some oil

4631--32 Finely oolitic limestone, hard & tight: Streaked bleeding in part

4632--35 Hard light brown medium crystalline to very slightly oolitic limestone: No show

4635--43 Light green slightly sandy to fine crystalline limestone: No show

4643--46 Dense to very fine crystalline limestone: No show

4646--47 Soft light grey silty slightly calcareous sand & silt, shaley: No show

4647--49 Fairly clean very fine grained silty sand & silt: No show

4649--62 Very slightly sandy fine crystalline light grey limestone: No show

4662--72 Hard tan-buff medium crystalline limestone, trace oolitic in part: No show

CORE #2 4672' to 4722' Cut 50' Rec. 50'

4672--76 Hard tan-buff medium crystalline with some medium grey dense limestone in part: No show

4676--90 Hard medium grey dense limestone, slightly sandy: No show

4690--4705 Hard dense to some very finely crystalline light grey limestone: No show

4705--06 Hard brown medium crystalline limestone with streks greenish slightly glauconitic dense limestone: No show

4706--07 Very fine to fine oolitic limestone, few inclusions & streaks of dense tan limestone: Good slightly streaked stain, good oder

4707--11 Medium to coarse looking oolitic slightly fossiferous to slightly dolomitic & oolacastic limestone: Good stain and odor

4711--12 Hard fine crystalline to dense light grey limestone with 4" streak of oolitic limestone as above, finer & tighter: Good stain in streak

4712--14 Finely oolitic well cemented slightly fossiliferous to traces oolacastic limestone, traces crystalline limestone: Good stain and odor

4714--15 Hard tight light grey slightly oolitic to some dense & fine crystalline limestone: Very streaked stain in part

4715--20 Hard light buff finely crystalline to some medium crystalline limestone: No show

4720--22 Mostly dense very hard light buff-tan limestone: No show

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PETROLEUM RESERVOIR ENGINEERING
WICHITA, KANSAS 67208

WELL R. Crist #2 COUNTY Finney STATE Kansas

COMPANY Maurice L. Brown DATE 3-4-74 FILE NO. S-1196

FIELD TYPE CORES Diamond ANALYST IS

ANALYSIS DATA AND INTERPRETATIONS

SAMPLE NO	DEPTH	PERMEABILITY MILLIDARCYS HORIZONTAL	PERMEABILITY MILLIDARCYS VERTICAL	POROSITY %	SATURATION WATER % PORE SPACE	SATURATION OIL % PORE SPACE	PROBABLE PRODUCTION	REMARKS
1	4627 28	0.0	0.0	3.6	63.9	0.0	No Perm	
2	4628 29	0.0	0.0	6.9	25.4	32.5	No Perm	
3	4629 30	1.6	0.0	8.7	21.4	22.9	No Perm	
4	4630 31	0.0	0.0	6.5	30.3	7.6	No Perm	
5	4631 32	1.0	0.0	7.3	23.6	16.8	No Perm	
6	4632 33	0.0	0.0	5.3	56.7	0.0	No Perm	
7	4637 38	0.0	0.0	4.0	70.0	0.0	No Perm	
8	4642 43	0.0	0.0	5.9	49.2	0.0	No Perm	
9	4645 46	0.0	0.0	3.6	50.0	0.0	No Perm	
10	4646 47	0.0	0.0	10.3	75.7	0.0	No Perm	
11	4647 48	1.2	0.4	9.9	48.5	0.0	No Perm	
12	4648 49	0.0	0.0	7.8	69.2	0.0	No Perm	
13	4649 50	0.0	0.0	4.9	95.9	0.0	No Perm	
14	4654 55	0.0	0.0	5.3	39.6	0.0	No Perm	
15	4659 60	0.0	0.0	4.6	32.6	0.0	No Perm	
16	4665 66	0.0	0.0	3.8	41.1	0.0	No Perm	
17	4670 71	0.0	0.0	4.1	57.1	0.0	No Perm	
18	4675 76	0.0	0.0	3.5	37.1	0.0	No Perm	
19	4680 81	0.0	0.0	4.1	61.0	0.0	No Perm	
20	4685 86	0.0	0.0	3.9	56.4	0.0	No Perm	

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WELL _____ COUNTY _____ STATE _____

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ANALYSIS DATA AND INTERPRETATIONS

SAMPLE NO	DEPTH	PERMEABILITY MILLIDARCYS		POROSITY %	SATURATION WATER % PORE SPACE	SATURATION OIL % PORE SPACE	PROBABLE PRODUCTION	REMARKS
		HORIZONTAL	VERTICAL					
21	4690 91	0.0	0.0	4.1	39.0	0.0	No Perm	
22	4695 96	0.0	0.0	3.5	43.7	0.0	No Perm	
23	4700 01	0.0	0.0	3.3	33.3	0.0	No Perm	
24	4705 06	0.0	0.0	6.3	25.4	0.0	No Perm	
25	4706 07	61.4	63.7	10.6	20.8	27.4	Oil	
26	4707 08	320	310	12.0	20.8	21.8	Oil	
27	4708 09	84.0	61.8	11.2	25.0	25.6	Oil	
28	4709 10	450	450	14.7	23.0	24.5	Oil	
29	4710 11	680	690	15.4	18.4	26.8	Oil	
30	4711 12	2.3	0.0	7.6	35.9	16.4	Oil	
31	4712 13	91.6	45.8	11.0	21.8	9.8	Oil	
32	4713 14	83.2	24.3	11.0	15.3	19.6	Oil	
33	4714 15	0.8	0.0	7.2	27.3	3.5	No Perm	
34	4715 16	0.0	0.0	3.6	50.0	0.0	No Perm	
35	4721 22	0.0	0.0	2.5	24.0	0.0	No Perm	

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DATA AVERAGES AND OIL RECOVERY FIGURES

DEPTH	4706'-4714'
FEET OF PRODUCTION FORMATION OF SECTION ANALYZED	8
AVERAGE PERMEABILITY IN MILLIDARCYS	222
AVERAGE POROSITY, PER CENT	11.7
AVERAGE TOTAL WATER % OF PORE SPACE	22.6
AVERAGE RESIDUAL OIL % OF PORE SPACE	21.5
AVERAGE CONNATE WATER CALCULATED % OF PORE SPACE	18.1
ESTIMATED FORMATION VOLUME FACTOR -- USED IN CALCULATING RECOVERABLE OIL	1.18
PRODUCTIVE CAPACITY -- PRODUCTIVE FEET X AVERAGE PERMEABILITY IN MILLIDARCYS	1,773
RECOVERABLE OIL BY WATER DRIVE -- BBLS. PER ACRE FOOT	283 *
RECOVERABLE OIL BY GAS EXPANSION -- BBLS. PER ACRE FOOT	157 **

* 45% of the oil in place

** 25% of the oil in place

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WICHITA, KANSAS

COMPANY Maurice L. Brown — DATE 3-4-74

WELL R. Crist #2 C SW SE 31-21-33W — ANALYST IS

FIELD Damme — ELEVATION

COUNTY Finney — STATE Kansas — GR _____ KB _____

PERMEABILITY MILLIDARCYS O—O

800 400 200 100

POROSITY % X—X

CORING TIME 20 10

MIN/FT

CONNATE WATER % SATURATION O—O

60 50 40 30

OIL % PORE SATURATION X—X

10 20 30