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CORE ANALYSIS REPORT

FOR

MACK C. COLT, INC.
MONROE NO. 1-T WELL
ANDERSON COUNTY, KANSAS

CORE LABORATORIES, INC.

FEBRUARY 5, 1977

MACK C. COLT, INC.
P.O. BOX 388
IOLA, KANSAS 66749

ATTN: MR. MACK C. COLT

SUBJECT: CORE ANALYSIS DATA
MONROE NO. 1-T WELL
ANDERSON COUNTY, KANSAS
CLI FILE 3402-8848

GENTLEMEN:

CORES TAKEN IN THE SUBJECT WELL IN THE BARTLESVILLE FORMATION WERE RECEIVED AT THE OKLAHOMA CITY LABORATORY FOR SPECIAL ANALYTICAL TESTING DESCRIBED ON THE PROCEDURE PAGE.

THE ACCOMPANYING COREGRAPH PRESENTS THE SURFACE CORE GAMMA LOG AND BINOMIALLY AVERAGED CORE ANALYSIS DATA IN GRAPHICAL FORM TO AID CORRELATION WITH DOWNHOLE ELECTRICAL SURVEYS.

TABULAR PRESENTATION OF THE MEASURED PHYSICAL PROPERTIES MAY BE FOUND ON PAGES ONE THROUGH THREE OF THIS REPORT.

DATA AVERAGES REFLECTING ZONE CHANGES ARE PRESENTED ON PAGE FOUR.

THE RESIDUAL FLUID SATURATIONS REPRESENT EXISTING SURFACE DATA OF THE CORES FROM THE SELMA FIELD AFTER KNOWN PRIMARY AND SOME SECONDARY DEPLETION. THE RESIDUAL OIL SATURATIONS MAY BE VERY CLOSE TO EXISTING RESERVOIR SATURATION. HOWEVER, GAS EXPULSION OF MOBILE WATER HAS UNDOUBTEDLY CAUSED THE TOTAL WATER SATURATIONS TO BE MORE NEARLY IRREDUCIBLE LEVEL, RATHER THAN THE EXPECTED HIGHER RESERVOIR WATER VALUE AFTER SOME WATER INJECTION.

IT IS A PLEASURE TO HAVE THIS OPPORTUNITY OF SERVING YOU.

VERY TRULY YOURS,

CORE LABORATORIES, INC.

Dale E. Boyle (csp)

DALE E. BOYLE
DISTRICT MANAGER

6 CC-ADDRESSEE

CORE LABORATORIES, INC.

MACK C. COLT, INC.
MONROE NO. 1-T WELL
FILE NO: 3402-8848

PROCEDURE PAGE

HANDLING AND ANALYTICAL PROCEDURES

DIAMOND CORING EQUIPMENT AND WATER BASE MUD WERE USED TO OBTAIN 3.0 INCH DIAMETER CORES BETWEEN 710 TO 750 FEET.

THE CORES WERE PRESERVED AT THE WELL SITE IN A CO₂ ATMOSPHERE BY CLI PERSONNEL.

THE CORES WERE TRANSPORTED TO OKLAHOMA CITY BY CLI PERSONNEL.

A CORE GAMMA LOG WAS RECORDED FOR DOWNHOLE E-LOG CORRELATION.

PLUG ANALYSIS WAS MADE IN INTERVALS REQUESTED.

FLUID REMOVAL WAS ACCOMPLISHED USING DEAN STARK EXTRACTION.

POROSITY WAS DETERMINED BY BOYLE'S LAW GRAIN VOLUME-MERCURY PUMP BULK VOLUME.

HORIZONTAL AIR PERMEABILITY ON PLUGS MEASURED WITHOUT KLINKENBERG CORRECTION.

SELECTED INTERVALS WERE PRESERVED FOR FUTURE TESTS.

CHLORIDES WERE DETERMINED IN THE ENTIRE ANALYZED INTERVAL.

TEMPORARY STORAGE OF CORES IN OKLAHOMA CITY LABORATORY AWAITING ADDITIONAL INSTRUCTIONS.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

MACK C. COLT, INC.
 MONROE NO. 1-T WELL
 SELMA FIELD
 ANDERSON COUNTY, KANSAS

DATE: 1/6/77
 FORMATION: BARTLESVILLE SAND
 DRLG. FLUID: WATER BASE MUD
 LOCATION: SE SEC. 9-22S-21E

FILE NO: 3402-8848
 ENGINEER: PUGH
 ELEVATION:

SMP. NO.	DEPTH	PERM. TO AIR MD. PLUG	POROSITY PERCENT	FLUID SATS. OIL	WTR.	GR. DEN.	DESCRIPTION
DEAN STARK PLUG ANALYSIS							
	710.0-14.0						SH, SLTY
1	714.0-15.0	12.0	17.4	27.6	40.9	2.68	SD, SL/SLTY
2	715.0-16.0	<0.1	12.0	16.6	56.9	2.70	SD, SLTY, SHY
3	716.0-17.0	29.0	19.9	42.1	26.3	2.68	SD
4	717.0-18.0	33.0	20.6	37.3	29.9	2.68	SD
5	718.0-19.0	62.0	20.2	37.2	36.2	2.68	SD
6	719.0-20.0	44.0	21.4	37.1	31.9	2.66	SD
	720.0-22.0						SH
7	722.0-23.0	12.0	18.3	36.0	37.2	2.70	SD, SL/SLTY, SHY
8	723.0-24.0	25.0	18.9	36.3	34.0	2.70	SD, SHY
9	724.0-25.0	24.0	19.3	38.9	27.9	2.69	SD, SHY
10	725.0-26.0	173.0	22.8	45.0	24.3	2.67	SD
11	726.0-27.0	39.0	20.2	37.4	29.4	2.69	SD, SHY
12	727.0-28.0	21.0	18.4	34.2	31.0	2.70	SD, SHY
13	728.0-29.0	66.0	20.7	40.8	28.2	2.68	SD
14	729.0-30.0	173.0	22.7	38.5	29.6	2.67	SD
15	730.0-31.0	27.0	20.1	33.2	24.7	2.69	SD
16	731.0-32.0	17.0	18.6	37.5	29.7	2.69	SD
17	732.0-33.0	78.0	21.6	38.5	30.8	2.67	SD
18	733.0-34.0	53.0	20.5	36.3	32.8	2.67	SD
19	734.0-35.0	61.0	19.8	35.6	32.5	2.65	SD, GIL
20	735.0-36.0	8.1	15.1	33.4	42.9	2.68	SD
21	736.0-37.0	197.0	21.5	50.8	33.1	2.66	SD, GIL
22	737.0-38.0	74.0	18.9	40.9	42.8	2.67	SD
23	738.0-39.0	60.0	19.2	49.9	32.6	2.65	SD, GIL
24	739.0-40.0	186.0	20.8	56.6	28.9	2.66	SD, GIL

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

ACK C. COLT, INC.
 ONRÖE NO. 1-T WELL

DATE: 1/6/77
 FORMATION: BARTLESVILLE SAND

FILE NO: 3402-8848
 ENGINEER: PUGH

MP. O.	DEPTH	PERM. TO AIR MD. PLUG	POROSITY PERCENT	FLUID SATS.		GR. DEN.	DESCRIPTION
				OIL	WTR.		
25	740.0-41.0	48.0	19.3	56.2	25.9	2.64	SD, GIL
26	741.0-41.5	22.0	18.5	57.7	26.2	2.64	SD, GIL
	741.5-50.0						SH

CORE LABORATORIES, INC.

Company MACK C. COLT, INC.
 Well MONROE NO. 1-T
 File No. 3402-8848 Date 1-6-77

Page 3

CHLORIDE DETERMINATIONS

<u>Sample Number</u>	<u>Depth Feet</u>	<u>NaCl ppm</u>
1	714.0-715.0	/ 36,000
2	715.0-716.0	/ 40,000
3	716.0-717.0	/ 32,000
4	717.0-718.0	/ 32,000
5	718.0-719.0	/ 49,000
6	719.0-720.0	/ 52,000
7	722.0-723.0	/ 37,000
8	723.0-724.0	/ 33,000
9	724.0-725.0	/ 34,000
10	725.0-726.0	/ 31,000 172
11	726.0-727.0	/ 36,000
12	727.0-728.0	/ 30,000
13	728.0-729.0	/ 30,000
14	729.0-730.0	/ 50,000 173
15	730.0-731.0	/ 31,000
16	731.0-732.0	/ 32,000
17	732.0-733.0	/ 37,000
18	733.0-734.0	/ 28,000
19	734.0-735.0	/ 28,000
20	735.0-736.0	/ 31,000
21	736.0-737.0	/ 36,000
22	737.0-738.0	/ 28,000
23	738.0-739.0	/ 28,000
24	739.0-740.0	/ 32,000
25	740.0-741.0	/ 30,000
26	741.0-741.5	/ 35,000

CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

CORE SUMMARY

COMPANY MACK C. COLT, INC.
 WELL MONROE NO. 1-T
 PAGE 4 OF 4 FILE 3402-8848

<u>DEPTH</u>	<u>PERMEABILITY, Md.</u>	<u>POROSITY PER CENT</u>	<u>SATURATION</u>		<u>GRAIN DENSITY</u>	GSI P. A. ft
			<u>OIL</u>	<u>WATER</u>		
716.0-720.0	42	20.5	38.4	31.1	2.68	610.7
722.0-735.0	59	20.1	37.6	30.2	2.68	526.3
735.0-736.0	8.1	15.1	33.4	42.9	2.68	773.4
736.0-740.0	129	20.1	49.6	34.4	2.66	773.4
740.0-741.5	35	18.9	57.0	26.1	2.64	835.7

Monroe 1-T

- 710-714.4 Sh med → dk gry uniform
- ✓ RIFPLE 715. SS vly fn gr. ^{min.} rippled some lam. of biot. lt. sat
- 716.6 (Sh gry & ss vly fn gr.) interstr. & interl. ss w/ lt. sat
- 718.6 SS vly fn gr. w/ num ~~med~~ ^{min rippled} wavy biot. lam. good sat
- 720.2 Ibid w/ local X strat fr. 718.6 → 719.4, good sat.
- AM. ZN 721.9 Sh dk gry & ss wh, interl. and interbed. crinkles of both show horiz
flowage adjust and minor faulting, no sat
- 724 SS vly fn gr w/ paper thin lam biot. horiz bedding, fair sat
- EST. ZN 726.1 Ibid w/ 20° X strat.
- 727.5 SS vly fn gr. num biot. ^{horiz} lam, 1/2" 3rd flattened & ridged sid pebs @ base
good sat
- EST. ZN 731.5 " " " " 25° X strat good sat
- 734.2 " " " " horiz. strat. " "
- M ZN 735.3 SS wh & sh dk gry interlam no sat
- SAL ZN 737.4 SS. vly fn gr. flat sid pebs fr. 736.8 - 737, good sat
- 741.6 SS " " " 5°-25° X strat, good sat fr. 737.6 - 738.2; rest of interval
w/ dead oil sat
- 742.3 Sh lt gry ds.
- 750.1 Sh lt → med gry crumbly "pencil case"



COMPANY MACK C. COLT, INC. FIELD SELMA FILE 3402-8848
 WELL MONROE NO. 1-T COUNTY ANDERSON DATE 2/5/77
 LOCATION SE SEC. 9-22S-21E STATE KANSAS ELEV. 1014.5

CORE-GAMMA CORRELATION

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

GAMMA RAY
RADIATION INCREASE
→

PERMEABILITY —
MILLIDARCYS
100.0 10.0 1.0 0.1

POROSITY —
PERCENT
30 20 10

TOTAL WATER 0000
PERCENT PORE SPACE
80 60 40 20 0

OIL SATURATION XXXX
PERCENT PORE SPACE
0 0 20 40 60 80

