

KEVIN L. KESSLER
CONSULTING PETROLEUM GEOLOGIST

(316) 522-7338

OPERATOR : RAYMOND OIL COMPANY INC.

LEASE : MICHAELIS

WELL # : 3

LOCATION : 2238'FNL & 835' FWL

SEC: 03

TWP : 14 S

RGE : 32 W

COUNTY : LOGAN

STATE : KANSAS

CONTRACTOR : H2 DRILLING RIG # 1

COMM: 08 / 02 / 2014

RTD : 4700

SAMPLES SAVED FROM : 3400

GEOLOGICAL SUPERVISION FROM : 3400

MUD UP : 3400

COMP : 08 / 12 / 2014

LOG TD : 4700

TO: RTD

TO : RTD

TYPE MUD : CHEMICAL

ELEVATION

KB : 2885'

GL : 2873'

MEASUREMENTS FROM

KB

CASING RECORD

SURFACE :

8 5/8" @ 265'

PRODUCTION :

ELECTRICAL SURVEYS :

DIL

CNL / CDL

MICRO

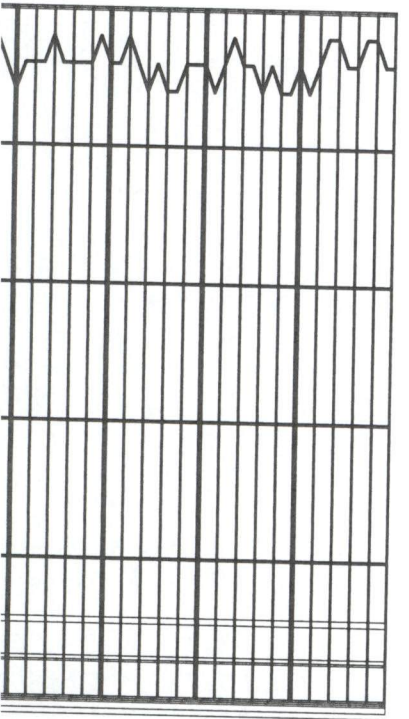
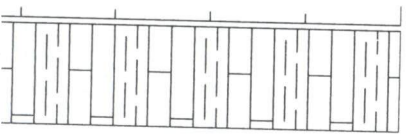
| FORMATION | TOP | SAMPLE | DATUM | TOP | LOG | DATUM | STRUCT. COMP. |
|-----------|------|--------|-------|------|-----|-------|---------------|
| STOTLER | 3510 | | - 625 | 3510 | | - 625 | + 03 |

| | | | | | |
|-------------|------|--------|------|--------|------|
| HEEBNER | 3864 | - 979 | 3864 | - 979 | + 06 |
| LANSING | 3906 | - 1021 | 3906 | - 1021 | + 03 |
| STARK | 4155 | - 1270 | 4155 | - 1270 | + 04 |
| BASE / KC | 4227 | - 1342 | 4227 | - 1342 | + 04 |
| CHEROKEE | 4452 | - 1567 | 4452 | - 1567 | - 07 |
| MISSISSIPPI | 4586 | - 1701 | 4586 | - 1701 | + 17 |

REFERENCE WELL FOR STRUCTURAL COMPARISON :

RAYMOND OIL CO INC # 2 MICHAELIS SEC 03 - T 14 S - R 32 W LOGAN COUNTY KANSAS

3400



SHALE: RED - BRN SILTY -
SANDY SOFT MINOR GRAY
FXTAL LST. MOST CHKY. NO
VIS. POR. NSO

SHALE: RED BED SILTY
MINOR LST. A. A. NO VIS.
POR. NSO

3450



SHALE: RED - BRN SOFT
SILTY - SANDY TRC. DNSE
LST. NO VIS. POR. NSO

MUD CHECK @ 3450'
VIS: 53
WT: 8.7

SHALE: RED BED A. A. NO
VIS. POR. NSO

SHALE: RED - BRN - GRAY
SILTY NSO

LST: GRAY - WHT FXTAL
CHKY SOFT NO VIS. POR.
NSO

SHALE: GRAY SILTY CALC.
IN PART

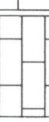
LST: WHT - CRM - GRAY
FXTAL SUBCHKY - DNSE
RARE FOSS SHALE A. A. NO
VIS. POR. NSO

LST: A. A. NO VIS. POR. NSO

LST: CRM - GRAY FXTAL
CHKY - SUBCHKY MINOR
FOSS. FR AMT GRAY SHALE
NO VIS. POR. NSO

MUD CHECK @ 3550'
VIS: 52
WT: 8.7

3500

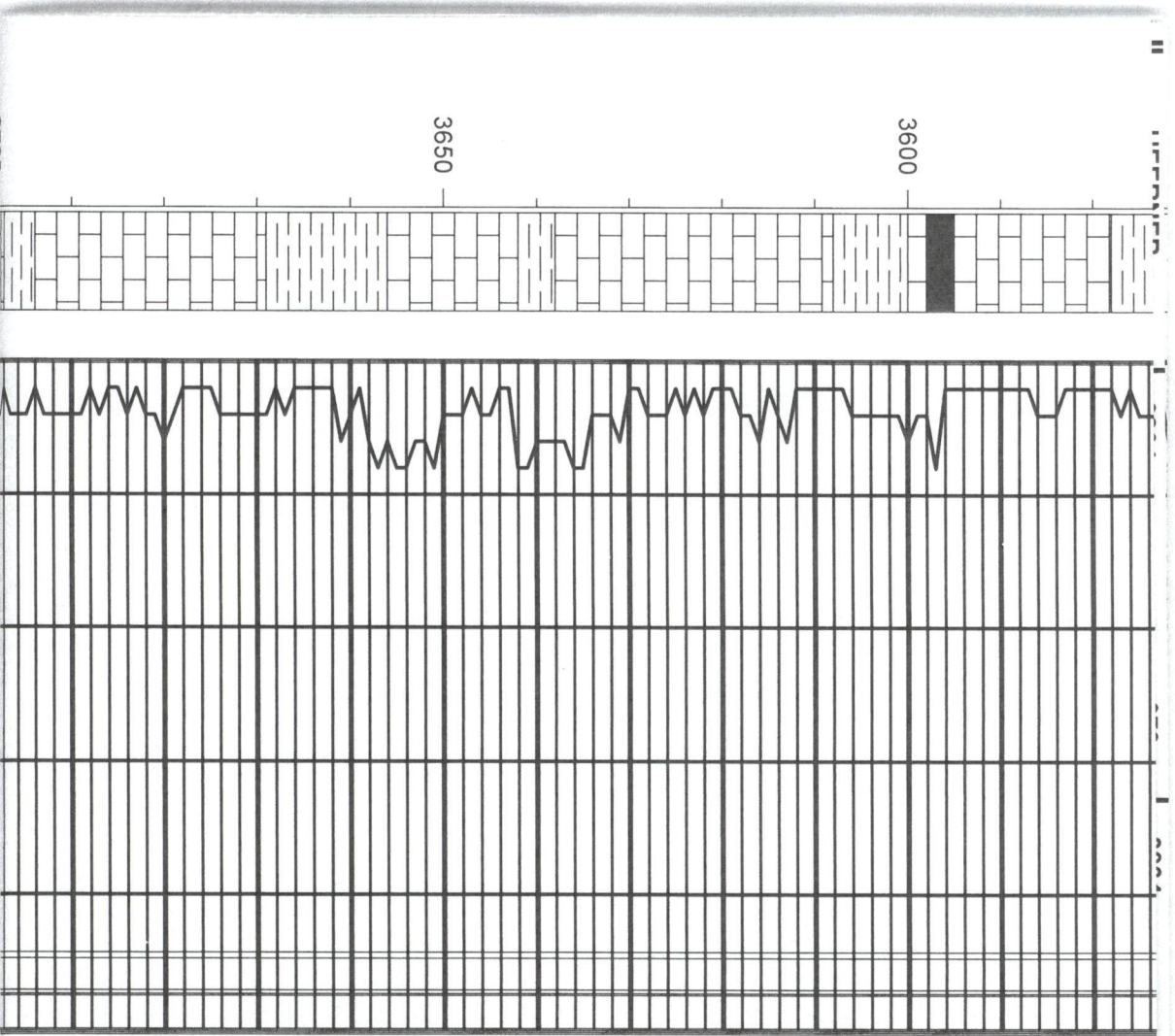


STOTLER 3410 (- 625)

3550



LST: CRM - GRAY FXTAL -
FXTAL UNIT - SUBUNIT



MEDXTAL SUBCHKY - DNSE
 MINOR SHALE NO VIS. POR.
 NSO

LST: CRM - GRAY FXTAL
 SUBCHKY - DNSE MINOR
 PYRITE TRC. BLK SHALE NO
 VIS. POR. NSO

LST: WHT - CRM - GRAY
 FXTAL MOST DNSE RARE
 FOSS. ABUND. GRAY - BRN
 SHALE NO VIS. POR. NSO

LST: CRM - GRAY - TAN
 FXTAL SUBCHKY - DNSE
 MINOR FOSS NO VIS. POR.
 NSO

LST: A. A. FR AMT GRAY
 SHALE NO VIS. POR. NSO

LST: WHT - CRM - GRAY
 FXTAL SUBCHKY - DNSE
 BRITTLE IN PART MINOR
 GRAY SILTY SHALE NO VIS.
 POR. NSO

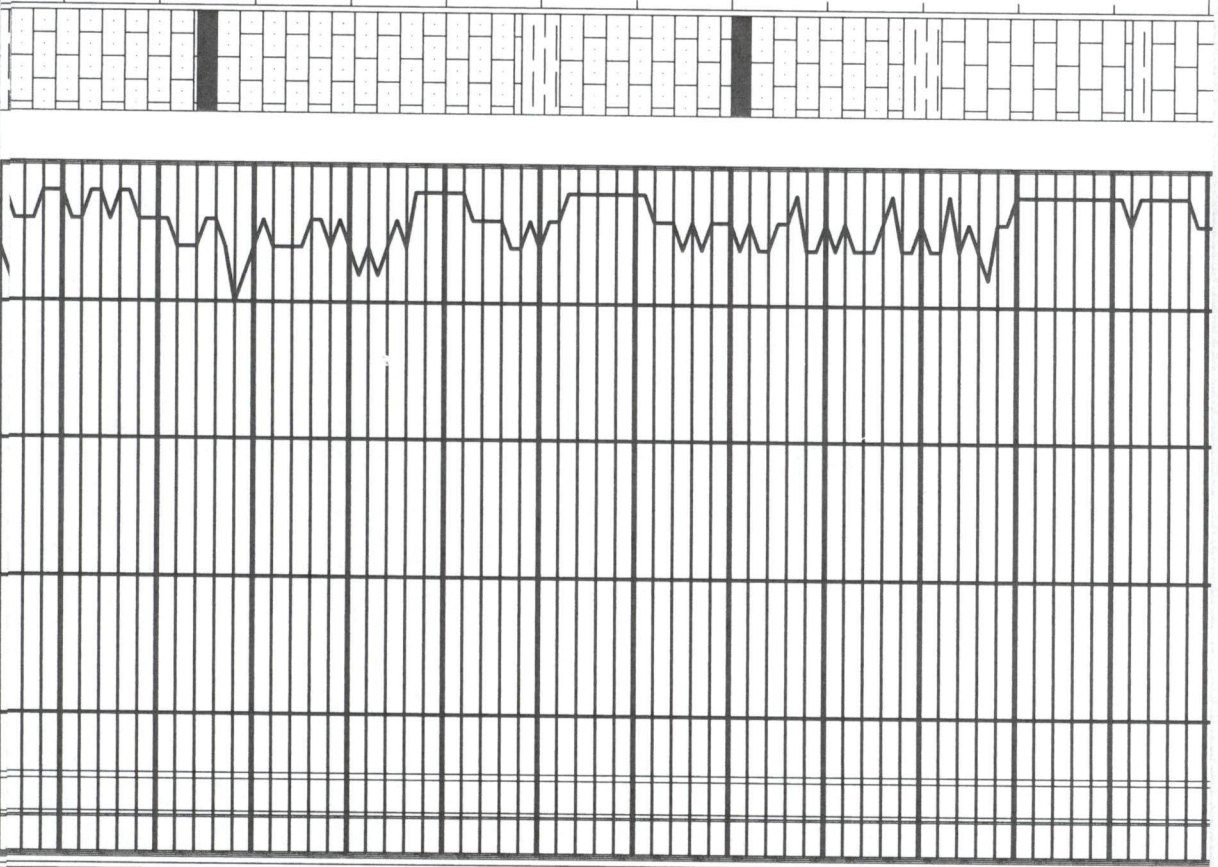
LST: A. A. NO VIS. POR. NSO

MUD CHECK @ 3650'
 VIS: 50
 WT: 8.8

3700

3750

3800



SHALE: GRAY SILTY CALC.
 W/ MINOR DNSE HARD
 GRAY LST. NO VIS. POR.
 NSO

LST: CRM - GRAY - TAN -
 BRN FXTAL SOFT CHKY
 ARENACEOUSE IN PART
 MINOR FOSS. NO VIS. POR.
 NSO

LST: CRM - GRAY - TAN -
 BRN FXTAL SUBCHKY -
 DNSE AREN. IN PART SLI
 FOSS. NO VIS. POR. NSO

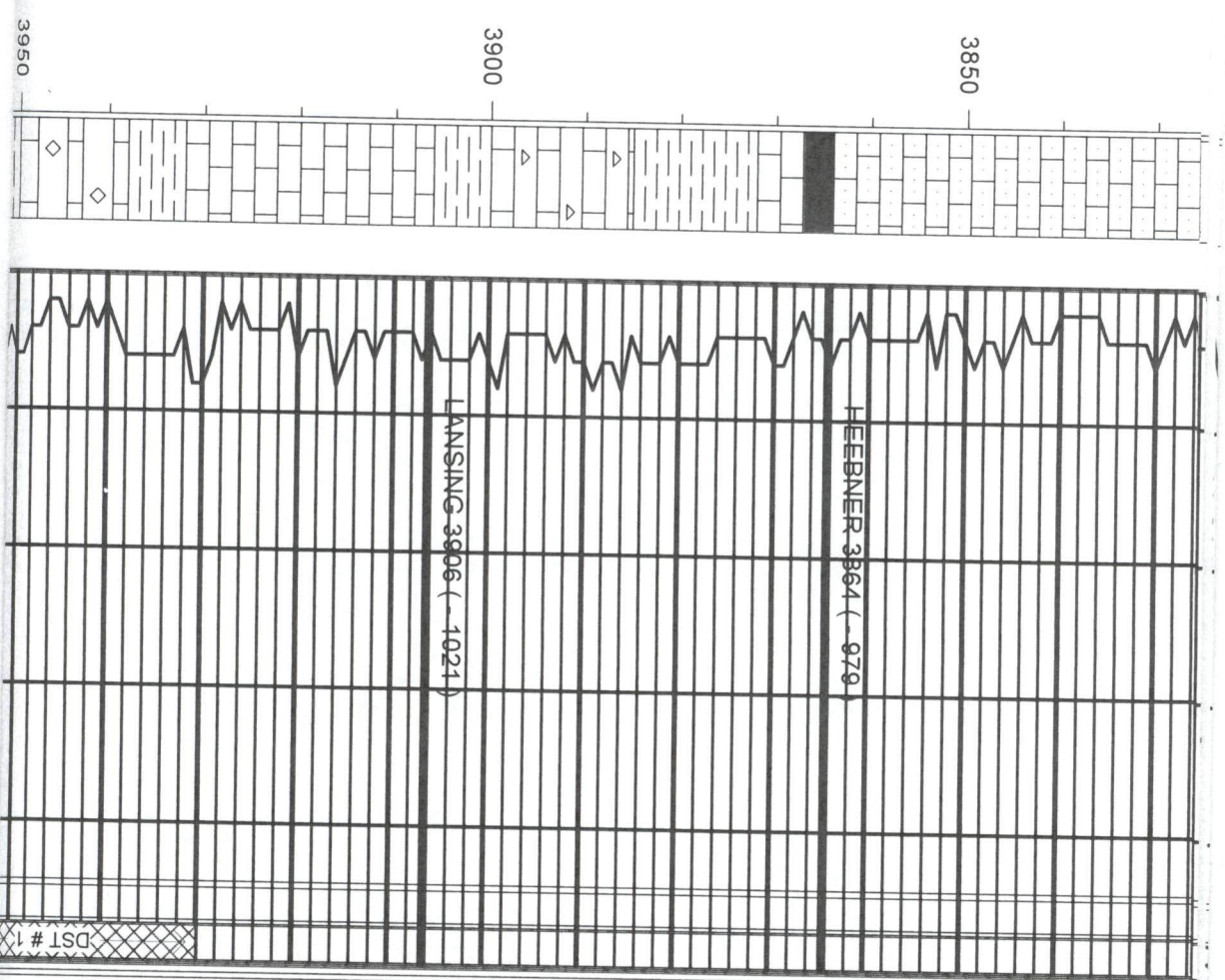
LST: A. A. MINOR BLACK
 CARB. SHALE NSO

SHALE: GRAY CALC. SILTY
 IN PART NSO

LST: CRM - GRAY - TAN
 FXTAL SUBCHKY - CHKY
 AREN. IN PART SLI FOSS.
 ARE OOLITES NO VIS. POR.
 NSO

LST: CRM - GRAY - TAN
 FXTAL CHKY - SUBCHKY

MUD CHECK @ 3750'
 VIS: 51
 WT: 8.8



FOSS IN PART AREN. MINOR
OOLITES NO VIS. POR. NSO

LST: A. A. FR AMT OOLITIC
FR. INTRPRT. POR. NSO

LST: CRM - TAN FXTAL SOFT
CHKY FOSS. IN PRT. NO
VIS. POR. NSO

SHALE: BLACK CARB. W/FR
AMT DNSE MOTTLED LST.
NO VIS. POR. NSO

LST: WHT - CRM FXTAL
SUBCHKY - DNSE MINOR
CHERT SLI FOSS. NO VIS.
POR. NSO

LST: A. A. NO VIS. POR. NSO
SHALE: GRAY - GREEN
CALC.

LST: WHT - CRM FXTAL
CHKY - SUBCHKY - DNSE
FOSS. IN PART RARE
OOLITE NO VIS. POR. NSO

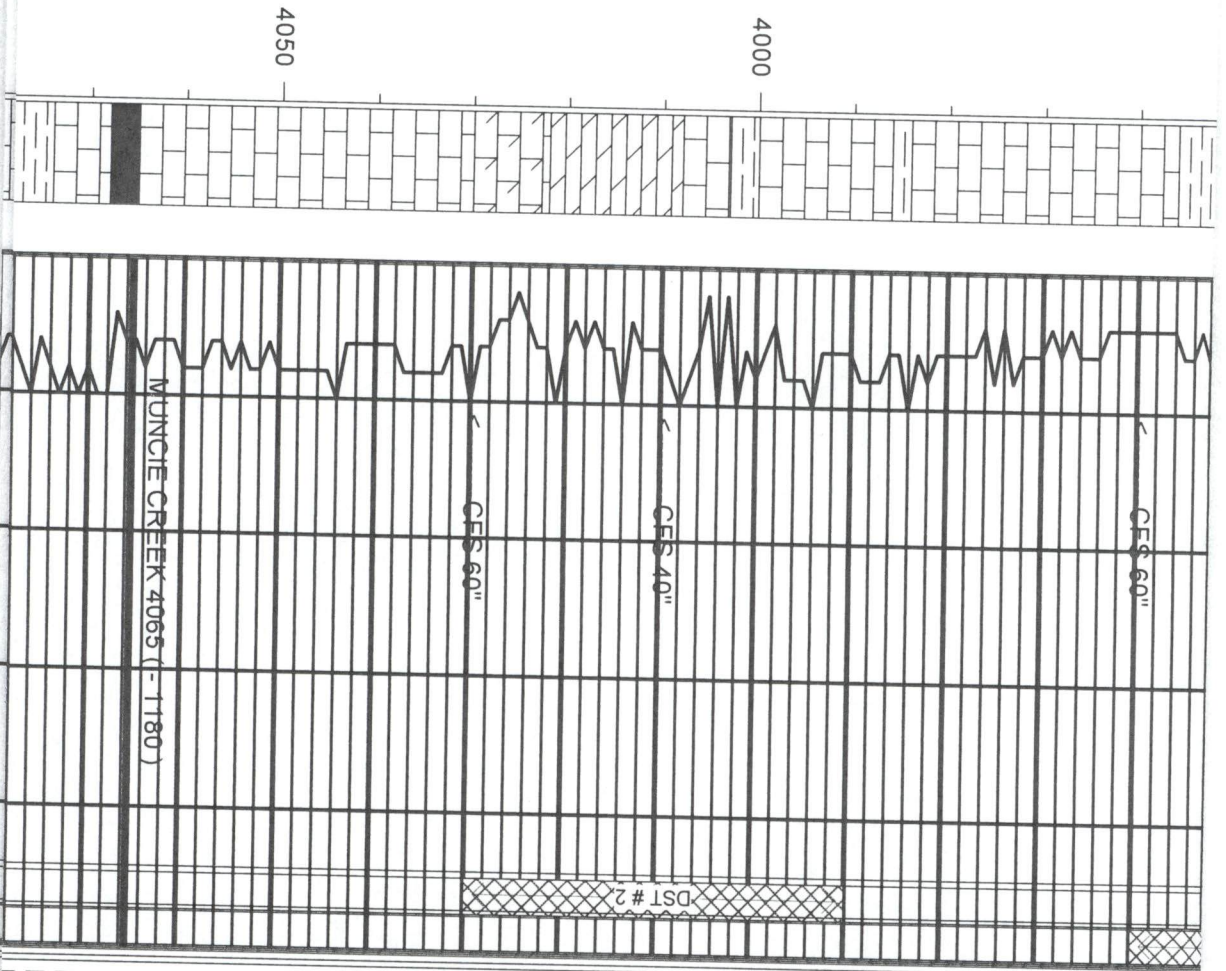
LST: WHT - CRM FXTAL
SUBCHKY - DNSE FOSS. IN
PART NO VIS. POR. NSO
SHALE: GRAY - DRK GRAY
NSO

LST: WHT - CRM FXTAL
SUBCHKY - DNSE OOLITIC IN
PART SLI FOSS. FSFO FNT

MUD CHECK @ 3850'
VIS: 50
WT: 8.9

DST # 1 (3930 - 3960)
IF: BOB 20" FF: BOB 40"
30" - 60" - 45" - 90"
REC: 565' MW
IFP: 24 - 190#
ISIP: 1076#
FFP: 196 - 291#
FSIP: 1070#

MUD CHECK @ 3950'



ODOR ON BREAK SCATT
 SUBSAT - SAT MED - DRK
 BRN STN FR - GD INTRPRT
 POR.
 SHALE: GRAY SILTY

LST: WHT - CRM - GRAY
 FXTAL SUBCHKY - DNSE
 FOSS IN PART NO VIS. POR.
 NSO

SHALE: GRAY - DRK GRAY
 W/LST: A. A. NSO

LST: WHT - CRM FXTAL
 DNSE HAD FOSS. IN PART
 FSFO GD ODOR SCATT
 SUBSAT LT - MED BRN STN
 PR FOSS. & VUGGY POR.
 LOOKS TIGHT
 SHALE: GRAY - GREEN
 CALC

DOLO: CRM - GRAY FXTAL
 SUCROSLIC SANDY DNSE
 HARD FSFO FNT - FR ODOR
 SCATT. SUBSAT - SAT DRK
 BRN STN FR INTXTAL POR.

LST: WHT - CRM - GRAY
 FXTAL MOST DNSE HARD
 FOSS. IN PART NO VIS. POR.
 NSO

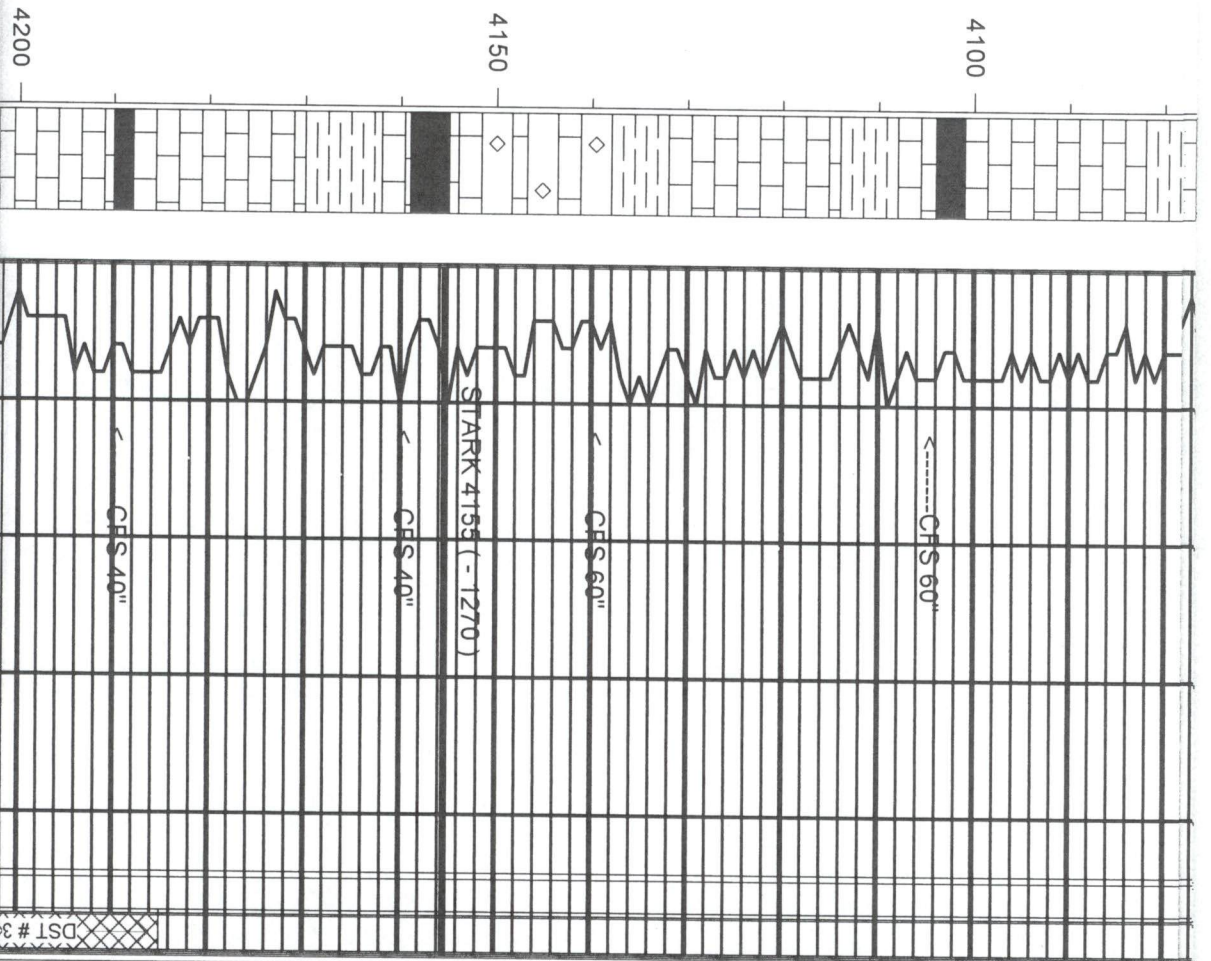
LST: A. A. NO VIS. POR. NSO
 SHALE: BLACK CARB.
 LST: WHT - CRM FXTAL
 HARD DNSE NO VIS. POR.
 NSO

VIS: 56
 WT: 9.1
 DEV: 3/4 DEG @ 3960'
 PIPE STRAP @ 3960'
 STRAP LONG 0.05'

DST # 2 (3990 - 4030)
 I.F: BOB 2 1/2" FF: BOB 4"
 30" - 60" - 45" - 90"
 REC: 1930' MW
 I.F.P.: 248 - 583#
 ISIP: 1103#
 FFP: 574 - 888#
 FSP: 1104#

DEV: 3/4 DEG @ 4030'

MUD CHECK @ 4050'
 VIS: 56
 WT: 9.3



SHALE: GRAY - DRK GRAY

LST: WHT - CRM - GRAY
 FXTAL MOST DNSE BLOCKY
 SLI FOSS. NO VIS. POR. NSO
 LST: A. A. W/FR AMT BLK
 CARB. SHALE NO VIS. POR.
 NSO

SHALE: GRAY - GREEN W/
 MINOR DNSE MOTTLED LST.
 NSO
 LST: CRM - TAN FXTAL DNSE
 HARD BLOCKY FOSS. IN
 PART NO VIS. POR. NSO

SHALE: GRAY CALC. W/ LST.
 A. A. NSO
 LST: WHT - CRM FXTAL
 DNSE BRITTLE SLI
 DOLOMITIC OOLICASTIC IN
 PART FR OOLICASTIC POR.
 NSO

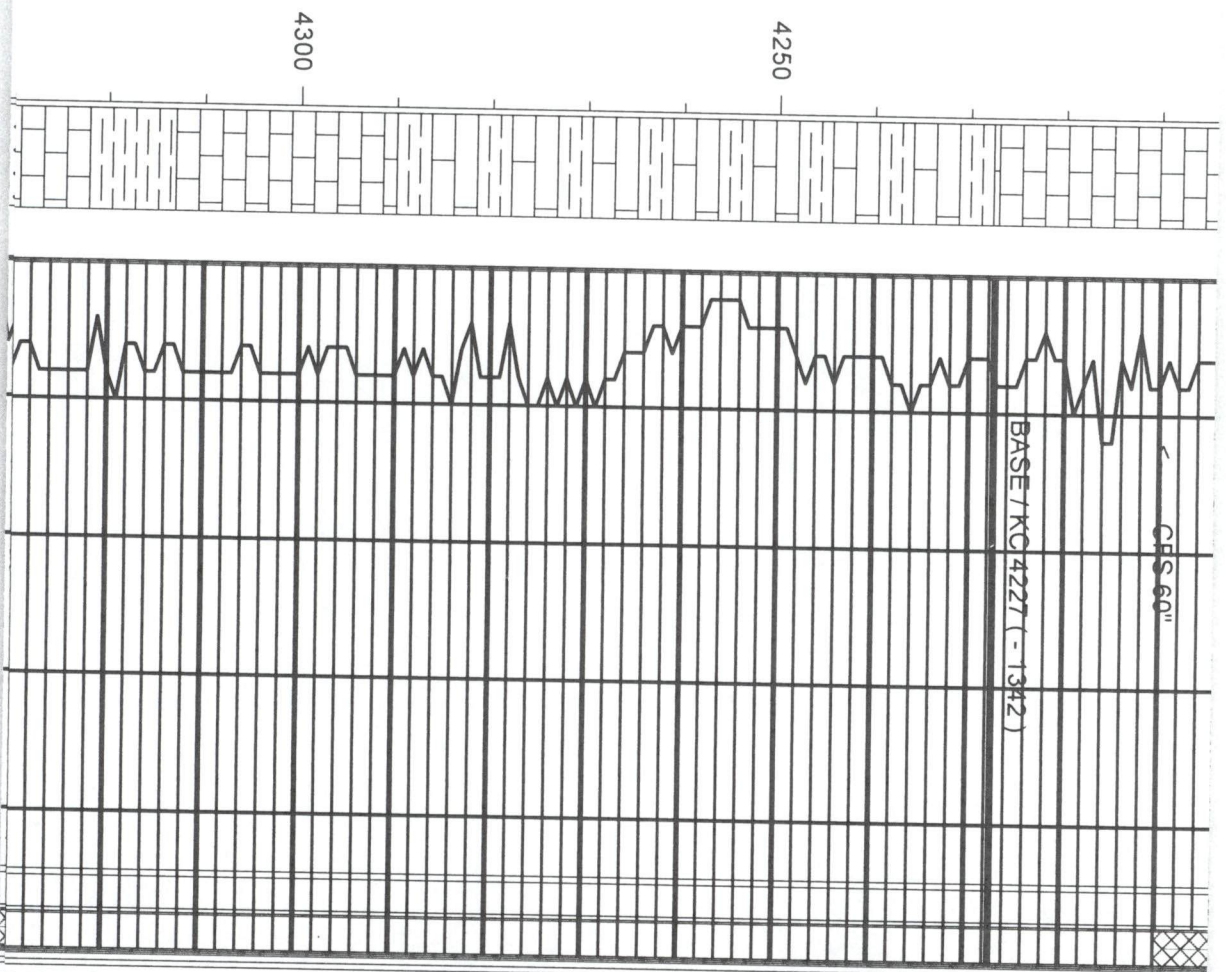
SHALE: BLACK CARB.

SHALE: GRAY W/ DNSE
 MOTTLED LST. NSO
 LST: CRM - TAN FXTAL DNSE
 BLOCKY HARD FOSS. IN
 PART NO VIS. POR. NSO

LST: A. A. W/ MINOR DRK
 GRAY - BLK CARB. SHALE
 NSO
 LST: CRM - GRAY - TAN
 FXTAL MOST DNSE FOSS. IN

MUD CHECK @ 4150'
 VIS: 55
 WT: 9.3

DST # 3 (4185 - 4210)
 IF: 1 1/2" FF: DEAD
 30" - 60" - 45" - 90"
 REC: 95' MUD
 I/P: 23 - 47#
 IS/P: 643#
 FFP: 53 - 67#
 FSI/P: 493#



PARTI S5-FU-FN1 UDUK-FEW
 PCS W/ SPTY - SUBSAT -
 SAT LT - MED BRN STN PR
 FOSS. POR

LST: CRM - GRAY - TAN
 FXTAL SUBCHKY - DNSE SLI
 FOSS. NO VIS. POR. NSO

SHALE: GRAY - GREEN
 SILTY SANDY W/ MINOR
 ARENACEOUS GRAY LST.
 NO VIS. POR. NSO

LST: CRM - GRAY - TAN
 FXTAL SUBCHKY - MOSTLY
 DNSE MICRITIC IN PART
 RARE FOSS. NO VIS. POR.
 NSO

SHALE: GRAY - DRK GRAY
 LST: DNSE HARD NO VIS.
 POR. NSO

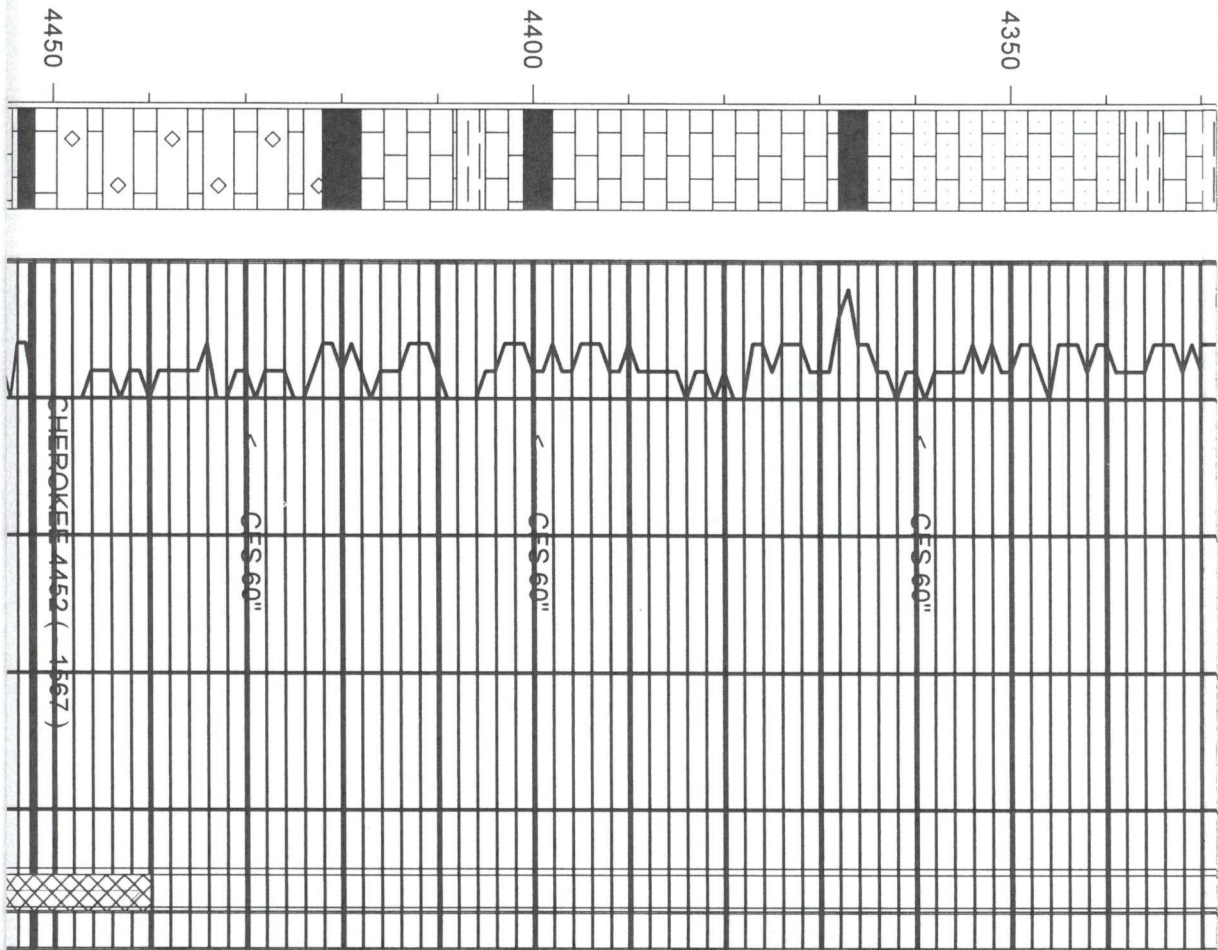
SHALE: GRAY - BRN EARTHY
 NSO

LST: CRM - GRAY - BRN
 FXTAL SUBCHKY - DNSE
 SANDY ARENACEOUS
 INPART NO VIS. POR. NSO

SHALE: TAN - BRN
 ARGILLACEOUS IN PART NSO
 LST: CRM - GRAY FXTAL
 DNSE HARD NO VIS. POR.
 NSO

DEV: 3/4 DEG @ 4210'

MUD CHECK @ 4250'
 VIS: 54
 WT: 9.3



NSO

SHALE: GRAY SILTY NSO

LST: CRM - TAN - BRN FXTAL
DNSE BLOCKY MICRITIC IN
PART NO VIS. POR. NSO

LST: A. A. NO VIS. POR. NSO

MUD CHECK @ 4350'
VIS: 56
WT: 9.3

SHALE: BLACK CARB. NSO

LST: CRM - GRAY FXTAL
SUBCHKY - DNSE SLI FOSS.
TIGHT NO VIS. POR. NSO

LST: CRM - GRAY FXTAL
DNSE BLOCKY RARE FOSS.
VERY HARD NO VIS. POR.
NSO

SHALE: BLACK CARB. NSO

LST: CRM - GRAY - TAN -
BRN FXTAL DNSE HARD
BLOCKY FOSS. IN PART NO
VIS. POR. NSO

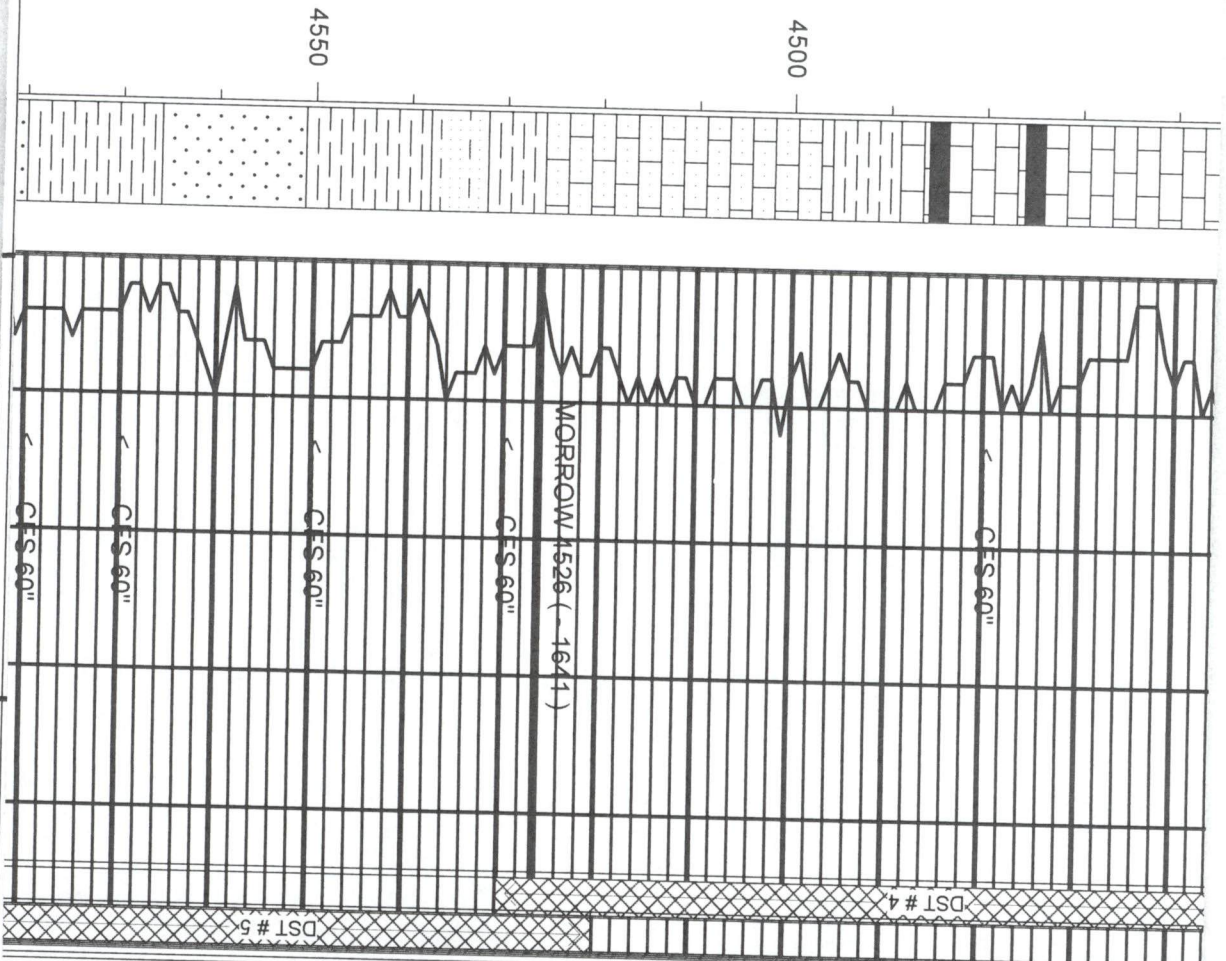
SHALE: BLACK CARB. NSO

LST: TAN - BRN FXTAL
MICRITIC IN PART HIGHLY
OOLITIC COMPACT NO VIS.
POR. NSO

LST: A. A. NO VIS. POR. NSO

SHALE: BLACK CARB. NSO

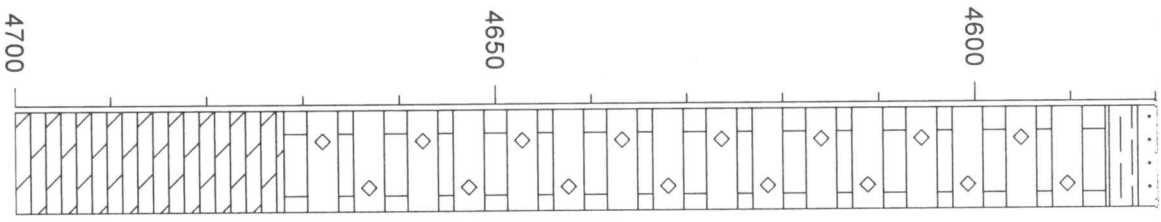
MUD CHECK @ 4450'
VIS: 54



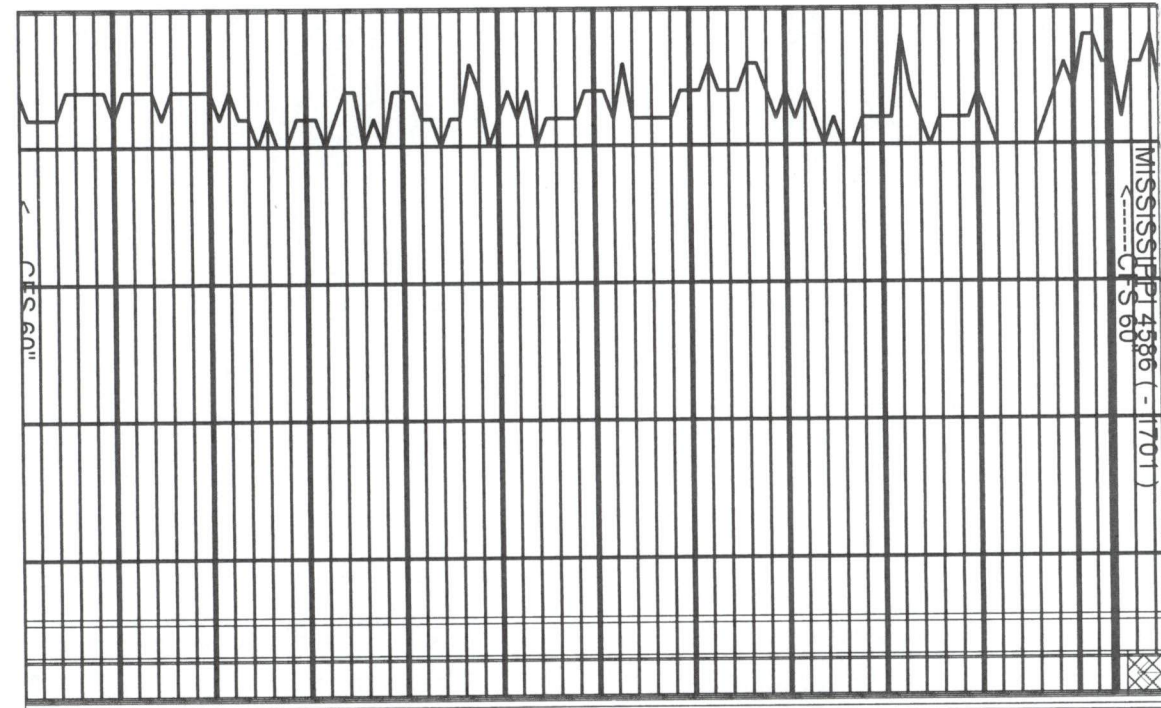
LST: CRM - GRAY FXTAL
 SUBCHKY - DNSE FOSS. IN
 PART SSFO FNT ODOR
 GSSY IN PART SCATT DRK
 BRN SPTY - SUBSAT STN PR
 - FR VUGGY POR.
 SHALE: BLACK CARB. NSO

 LST: CRM - GRAY FXTAL
 SUBCHKY - DNSE HARD
 BRITTLE RARE FOSS. NO
 VIS. POR. NSO
 LST: A. A. W/ MINOR DRK
 GRAY - BLACK SHALE NO
 VIS. POR. NSO
 LST: TAN - BRN FXTAL
 MICRITIC IN PART SLI FOSS.
 DNSE HARD ARENACEOUS
 SSFO FR ODOR SCATT MED
 BRN SUBSAT - SAT STN FR
 VUGGY & INTRPRT. POR.
 LST: A. A. W/ SHOW A. A.
 MINOR FRAC. POR
 SHALE: VARI COLORED RED
 - BRN GRAY - GREEN -
 YELLOW SANDY IN PART
 NSO
 SAND: FN. GRN. QTZ WELL
 SORTED SUB ROUND -
 ROUNDED GRAINS SILTY IN
 PART PR INTRGRAN POR.
 NSO
 SHALE: VARI COLORED
 SAND: QTZ. FN - MED -
 COARSE GRN FR SORTED
 ANGULAR - SUBROUNDED
 WELL CEMENTED HARD
 TIGHT CLUSTERS MOST
 BARREN FEW CLUSTERS
 SUBFRIABLE W/ FSFO FR
 ODOR ON BREAK MINOR

WT: 9.4
 DST # 4 (4440 - 4530)
 IF: 1/2" FF: DEAD
 30" - 60" - 45" - 90"
 REC: 15' MUD
 IFF: 27 - 37#
 ISIP: 1164#
 FFP: 39 - 49#
 FISIP: 1158#
 DEV: 3/4 DEG. @ 4530'
 MUD CHECK @ 4550'
 VIS: 56
 WT: 9.4
 DST # 5 (4520 - 4585)
 IF: 1/4" FF: DEAD
 30" - 60" - 45" - 90"
 REC: 10' MUD



MISSISSIPPI 4386 (-1701)
 CFS 60



AMT W/ SAT MED BRN STN
 FR INTRGRAN POR.

LST: CRM - TAN FXTAL DNSE
 HARD BLOCKY VERY
 OOLITIC COMPACT NO VIS.
 POR. NSO

LST: CRM - TAN - GRAY
 FXTAL DNSE VERY HARD
 BLOCKY OOLITIC SANDY IN
 PART NO VIS. POR. NSO

LST: CRM - TAN - BRN FXTAL
 SUBCHKY - DNSE HARD
 OOLITIC SANDY IN PART NO
 VIS. POR. NSO

LST: CRM - TAN - BRN FXTAL
 SUBCHKY - MOSTLY DNSE
 HARD BLOCKY OOLITIC
 COMPACT NO VIS. POR.
 NSO

DOLomite: CRM - GRAY
 FXTAL DNSE BRITTLE
 SUCROSIC NO VIS. POR.
 NSO

DOLomite: CRM - GRAY
 FXTAL MOST DNSE HARD
 BRITTLE SUCROSIC NO VIS.
 POR. NSO

IFP: 28 - 38#
 ISIP: 1150#
 FFP: 46 - 51#
 FSP: 1145#
 DEV: 3/4 DEG. @ 4700'

MUD CHECK @ 4650'
 VIS: 57
 WT: 9.4

RTD = 4700' LTD = 4700'

COMMENTS:

DUE TO NEGATIVE DST RESULTS & LACK OF COMMERCIAL SHOWS OF OIL

THIS WELL WAS PLUGGED AS D&A

KEVIN L. KESSLER