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OPERATOR : MULL DRILLING COMPANY, INC.
LEASE : TJADEN 'C' WELL # : 3
LOCATION : 1980' FNL & 660' FWL
SEC: 18 TWP : 30 S RGE : 07 W
COUNTY : KINGMAN STATE : KANSAS

ELEVATION
KB : 1482
GL : 1472
MEASUREMENTS FROM
KB

CONTRACTOR : PICKRELL DRILLING RIG # 1
COMM : 05 / 29 / 2013 COMP : 06 / 05 / 2013
RTD : 4400 LOG TD : 4400
SAMPLES SAVED FROM : 2900 TO : RTD
GEOLOGICAL SUPERVISION FROM : 2900 TO : RTD
MUD UP : 3100 TYPE MUD : CHEMICAL

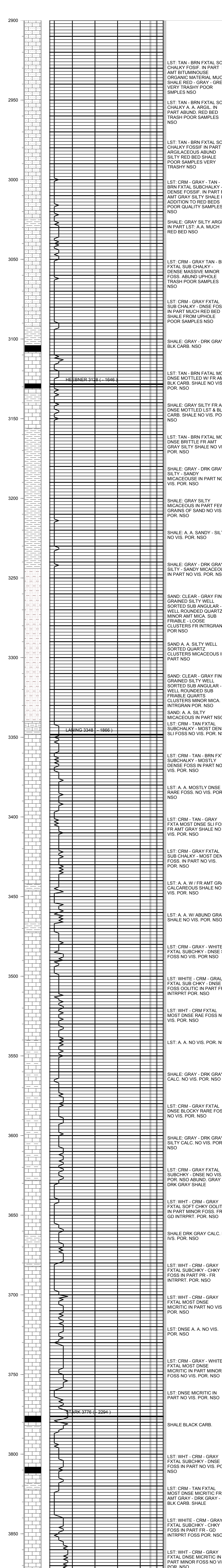
CASING RECORD
SURFACE :
8 5/8" @ 226'
PRODUCTION :
5 1/2" @ 4400'

ELECTRICAL SURVEYS :

FORMATION	TOP	LOG	DATUM	TOP	SAMPLE	DATUM	STRUCT. COMP.
HEEBNER	3128		- 1646	3128		- 1646	+ 04
LANSING	3348		- 1866	3348		- 1866	+ 02
STARK	3776		- 2294	3776		- 2294	+ 01
BASE/ KC	3882		- 2400	3882		- 2400	+ 08
CHEROKEE	4022		- 2540	4022		- 2540	FLAT
MISSISSIPPI	4145		- 2663	4145		- 2663	+ 03

CDL/CNL
DIL
MICRO
SONIC

REFERENCE WELL FOR STRUCTURAL COMPARISON :
MULL DRILLING CO INC. # 2 TJADEN 'C' SEC 18 - T 30 S - R 07 W KINGMAN COUNTY KANSAS



LST: TAN - BRN FXTAL SOFT CHALKY FOSIF. IN PART FR AMT BITUMINOUSE ORGANIC MATERIAL MUCH SHALE RED - GRAY - GREEN VERY TRASHY POOR SMPLES NSO

LST: TAN - BRN FXTAL SOFT CHALKY A. A. ARGIL. IN PART ABUND. RED BED TRASH POOR SAMPLES NSO

LST: TAN - BRN FXTAL SOFT CHALKY FOSSIF IN PART ARGILACEOUS ABUND SILTY RED BED SHALE POOR SAMPLES VERY TRASHY NSO

LST: CRM - GRAY - TAN - BRN FXTAL SUBCHALKY - DENSE FOSSIF. IN PART FR AMT GRAY SILTY SHALE IN ADDITION TO RED BEDS POOR QUALITY SAMPLES NSO

SHALE: GRAY SILTY ARGIL. IN PART LST: A.A. MUCH RED BED NSO

LST: CRM - GRAY TAN - BRN FXTAL SUB CHALKY - DENSE MASSIVE MINOR FOSS. ABUND UPHOLE TRASH POOR SAMPLES NSO

LST: CRM - GRAY FXTAL SUB CHALKY - DNSE FOSS IN PART MUCH RED BED SHALE FROM UPHOLE POOR SAMPLES NSO

SHALE: GRAY - DRK GRAY - BLK CARB. NSO

LST: TAN - BRN FATAL MOST DNSE MOTTLED W/ FR AMT BLK CARB. SHALE NO VIS. POR. NSO

SHALE: GRAY SILTY FR AMT DNSE MOTTLED LST & BLK CARB. SHALE NO VIS. POR. NSO

LST: TAN - BRN FXTAL MOST DNSE BRITTLE FR AMT GRAY SILTY SHALE NO VIS. POR. NSO

SHALE: GRAY - DRK GRAY SILTY - SANDY MICACEOUS IN PART NO VIS. POR. NSO

SHALE: GRAY SILTY MICACEOUS IN PART FEW GRAINS OF SAND NO VIS. POR. NSO

SHALE: A. A. SANDY - SILTY NO VIS. POR. NSO

SHALE: GRAY - DRK GRAY SILTY - SANDY MICACEOUS IN PART NO VIS. POR. NSO

SAND: CLEAR - GRAY FINE GRAINED SILTY WELL SORTED SUB ANGULAR - WELL ROUNDED QUARTZ MINOR AMT MICA. SUB FRIABLE - LOOSE CLUSTERS FR INTRGRAN. POR NSO

SAND: A. A. SILTY WELL SORTED QUARTZ CLUSTERS MICACEOUS IN PART NSO

SAND: CLEAR - GRAY FINE GRAINED SILTY WELL SORTED SUB ANGULAR - WELL ROUNDED SUB FRIABLE QUARTZ CLUSTERS MINOR MICA. FR INTRGRAN POR. NSO

SAND: A. A. SILTY MICACEOUS IN PART NSO

LST: CRM - TAN FXTAL SUBCHALKY - MOST DENSE SLI FOSS NO VIS. POR. NSO

LST: CRM - TAN - BRN FXTAL SUBCHALKY - MOSTLY DENSE FOSS IN PART NO VIS. POR. NSO

LST: A. A. MOSTLY DNSE RARE FOSS. NO VIS. POR. NSO

LST: CRM - TAN - GRAY FXTAL MOST DNSE SLI FOSS FR AMT GRAY SHALE NO VIS. POR. NSO

LST: CRM - GRAY FXTAL SUB CHALKY - MOST DENSE FOSS. IN PART NO VIS. POR. NSO

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

LST: A. A. W/ ABUND GRAY SHALE NO VIS. POR. NSO

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

LST: WHITE - CRM - GRAU FXTAL SUB CHKY - DNSE SLI FOSS OOLITIC IN PART FR INTRPRT POR. NSO

LST: WHT - CRM FXTAL MOST DNSE RAE FOSS NO VIS. POR. NSO

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

SHALE: GRAY - DRK GRAY CALC. NO VIS. POR. NSO

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

SHALE: GRAY - DRK GRAY SILTY CALC. NO VIS. POR. NSO

LST: CRM - GRAY FXTAL SUBCHKY - DNSE NO VIS. POR. NSO ABUND. GRAY - DRK GRAY SHALE

LST: WHT - CRM - GRAY FXTAL SOFT CHKY OOLITIC IN PART MINOR FOSS. FR - GD INTRPRT. POR. NSO

SHALE DRK GRAY CALC. NO IVS. POR. NSO

LST: WHT - CRM - GRAY FXTAL SUBCHKY - CHKY FOSS IN PART PR - FR INTRPRT. POR. NSO

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

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

LST: CRM - GRAY - WHITE FXTAL MOST DNSE MICRITIC IN PART MINOR FOSS NO VIS. POR. NSO

LST: DNSE MICRITIC IN PART NO VIS. POR. NSO

SHALE BLACK CARB.

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

LST: CRM - TAN FXTAL MOST DNSE MICRITIC FR AMT GRAY - DRK GRAY - BLK CARB. SHALE

LST: WHITE - CRM - GRAY FXTAL SUBCHKY - CHKY FOSS IN PART FR - GD INTRPRT FOSS POR. NSO

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

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

MUD CHECK @ 3150
 VIS: 48
 WT: 8.9

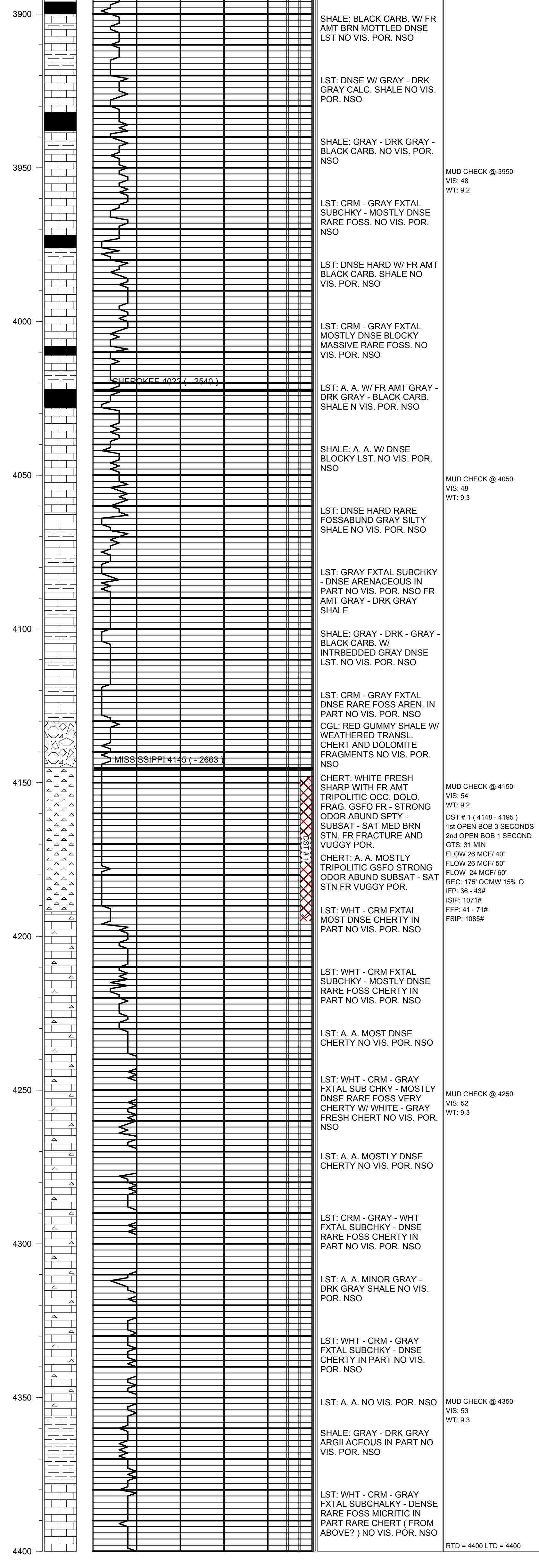
MUD CHECK @ 3250
 VIS: 46
 WT: 9.2

MUD CHECK @ 3350
 VIS: 45
 WT: 9.2

MUD CHECK @ 3550
 VIS: 47
 WT: 9.3

MUD CHECK @ 3650
 VIS: 46
 WT: 9.3

MUD CHECK @ 3850
 VIS: 45
 WT: 9.4



COMMENTS:

**PRODUCTION CASING WAS SET TO FURTHER
EVALUATE THE POTENTIAL PRODUCTIVITY OF THIS WELL**

KEVIN L. KESSLER