

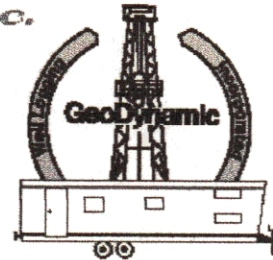
GeoDynamic

Well Logging, Inc.



Rt. #1, Box 185
May, Ok. 73851

(580) 689-2272
(580) 921-5258



Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: M & M Exploration, Inc. Z-Bar 9-14
Location: Sec. 9-T34S-R14W Barber County, KS
License Number: 15-007-23700 Region: Aetna NE
Spud Date: 6/28/11 Drilling Completed: 7/07/11
Surface Coordinates: 660'FSL & 1980' FWL, SW/4

Bottom Hole Coordinates: As Above

Ground Elevation (ft): 1549' K.B. Elevation (ft): 1561'
Logged Interval (ft): 3,750' To: 4,900' Total Depth (ft): 4,900'
Formation: Pennsylvanian & Mississippian
Type of Drilling Fluid: Chemical Mud

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: M & M Exploration, Inc.
Address: Attn: Mike Austin
4257 Main Street, Suite 230
Westminster, CO 80031

GEOLOGIST

Name: Mike Pollok
Company: MAP Exploration, Inc.
Address: P. O. Box 106
Purcell, Ok 73080

Comments

Southwind Rig #70
Mudlogging Unit #13
Mudlogger: Beth Brock

ROCK TYPES

	Anhy		Congl		Mrlst		Ss
	Bent		Dol		Salt		Till
	Brec		Gyp		Shale		sdy sh
	Cht		Igne		Shcol		calc sh
	Clyst		Lmst		Shgy		shale

ACCESSORIES

MINERAL

▨ Anhy
 ▨ Arggrn
 ▨ Arg
 ▨ Bent
 ▨ Bit
 ⊕ Breclrag
 ▨ Calc
 ▨ Carb
 ▨ Chtdk
 ▨ Chltt
 ▨ Dol
 ⊕ Feldspar
 ⊕ Ferrpel
 ▨ Ferr
 ▨ Glau
 ▨ Gyp
 ▨ Hvymin
 ▨ Kaol
 ▨ Marl

⊛ Minxl
 ⊛ Nodule
 ⊛ Phos
 ⊛ Pyr
 ⊛ Salt
 ▨ Sandy
 ▨ Silt
 ▨ Sil
 ▨ Sulphur
 ▨ Tuff

FOSSIL

⊛ Algae
 ⊛ Amph
 ⊛ Belm
 ⊛ Bioclst
 ⊛ Brach
 ⊛ Bryozoa
 ⊛ Cephal
 ⊛ Coral

⊛ Crin
 ⊛ Echin
 ⊛ Fish
 ⊛ Foram
 ⊛ Fossil
 ⊛ Gastro
 ⊛ Oolite
 ⊛ Ostra
 ▨ Pelec
 ▨ Pellet
 ⊛ Pisolite
 ⊛ Plant
 ⊛ Strom

STRINGER

▨ Anhy
 ▨ Arg
 ▨ Bent
 ▨ Coal
 ▨ Dol

▨ Gyp
 ▨ Ls
 ▨ Mrst
 ▨ Slststrg
 ▨ Ssstrg

TEXTURE

⊛ Boundst
 ⊛ Chalky
 ⊛ Cryxln
 ⊛ Earthy
 ⊛ Finexln
 ⊛ Grainst
 ⊛ Lithogr
 ⊛ Microxln
 ⊛ Mudst
 ⊛ Packst
 ⊛ Wackest

OTHER SYMBOLS

POROSITY TYPE

⊛ Earthy
 ⊛ Fenest
 ⊛ Fracture
 ⊛ Inter
 ⊛ Moldic
 ⊛ Organic
 ⊛ Pinpoint
 ⊛ Vuggy

SORTING

⊛ Well
 ⊛ Moderate
 ⊛ Poor

ROUNDING

⊛ Rounded
 ⊛ Subrnd
 ⊛ Subang

⊛ Angular

OIL SHOWS

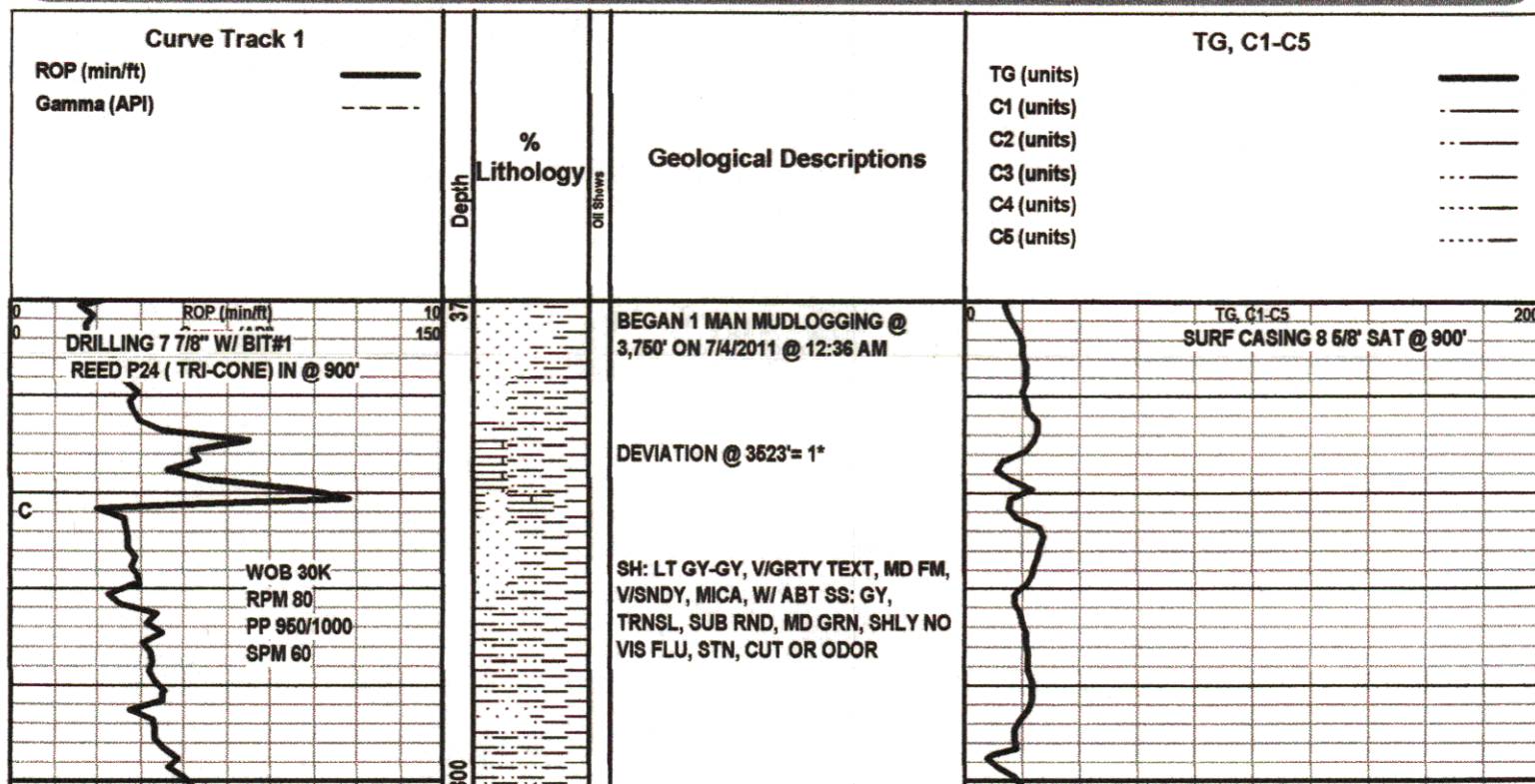
⊛ Even
 ⊛ Spotted
 ⊛ Ques
 ⊛ Dead

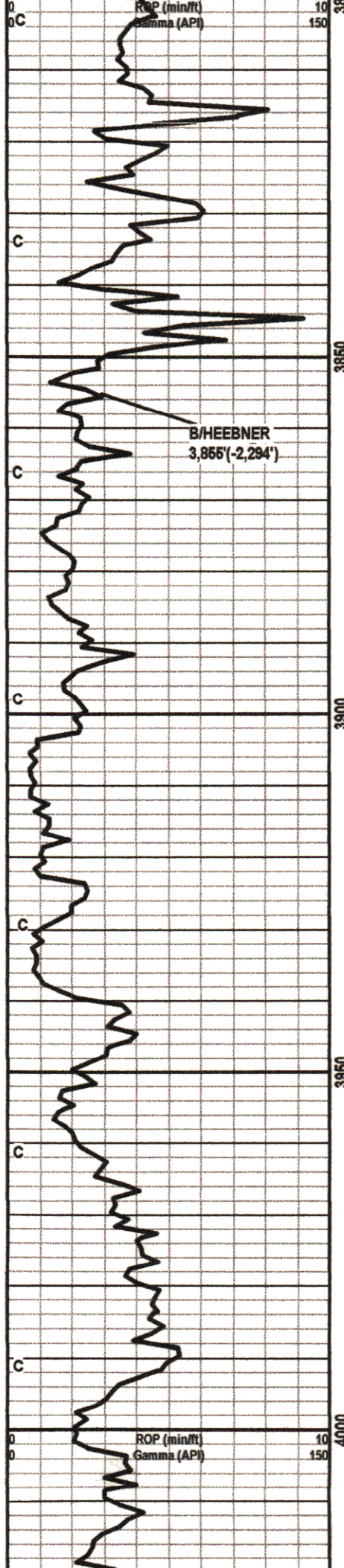
INTERVALS

⊛ Core
 ⊛ Dst

EVENTS

▨ Rft
 ▨ Sidewall





SH: AAB W/ SM LS: TN-BRN-DK BRN,
DNS, HD, V/FOSS, SM BRT YEL FLU,
NO VIS STN, CUT, OR ODOR

SH: GY-DK GY-BLK, V/FN TEXT,
WXY, MD FM-HD, CALC, MICA, PYR'C

SHALE GAS

SH:AAB

SHALE GAS

LS: WT-OFF WT-TN-BRN, V/FN
MICRO-XLN, DNS, TR P.P.POR, CALC,
SLI FOSS, SLI ARG, SM BRT WHTSH
YEL FLU, NO VIS STN, CUT OR ODOR

SS: LT GY-GY, FG-MG, SUB
RND-SUB ANG, CLR, TRNS, CONS,
MICA, KAOL I.B., SIL, NO VIS FLU,
STN, CUT, OR ODOR

MUD CK @ 3,919'

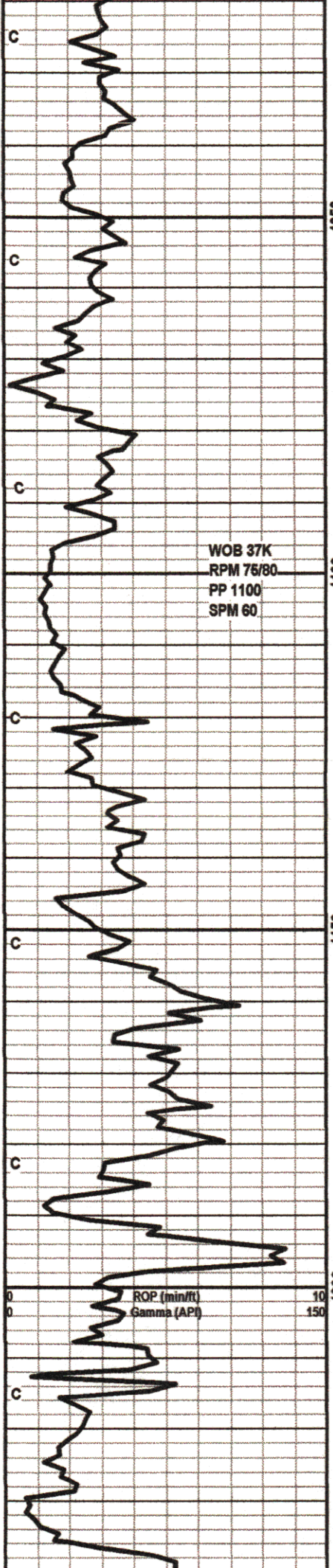
- WT 9.1
- V 46
- PV 15
- YP 13
- GEL 8/16
- WL 15.9
- CK 2
- SOLS 5.1
- PH 10
- CHL 10000
- CA 260
- LCM 4

SH: LT GY- GY-DK GY, FN TEXT, SLI
GRTY, V/SNDYSNDY, MD FM, V/MICA,
SLI FISS,

SH: GY- DK GY, V/FN TEXT,
V/SFT-SFT, MICA, PLTY, FISS, PYR'C,
FR PYR

TG, C1-C5

200



SH: AAB

LS: OFF WT-TN-GY, V/FN MICRO-XLN,
HD, DNS, TR P.P.POR, CALC, FOSS,
SHLY, SLI FOSS, SM DUL YEL FLU,
NO VIS STN, CUT, OR ODOR

WOB 37K
RPM 75/80
PP 1100
SPM 60

LS: AAB

LS: OFF WT-TN-BRN, MICRO-XLN, SM
P.P.POR, VIARG, FOSS, FR CALC
THRUOUT, SLI DNS, DUL YEL FLU,
NO VIS STN, CUT, OR ODOR

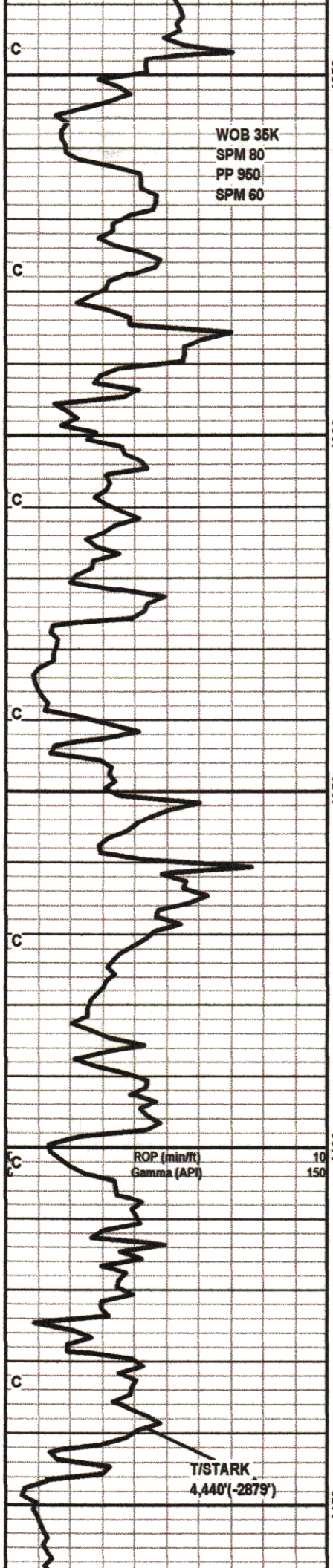
7/5/11
12:06AM

LS: AAB

TG, C1-C5

LS: TN-BRN-DK BRN, MICRO-XLN, SLI
BRTL, GD P.P.POR, SLI OOL'C VIARG,
GD DUL YEL FLU, NO VIS STN, CUT,
OR ODOR

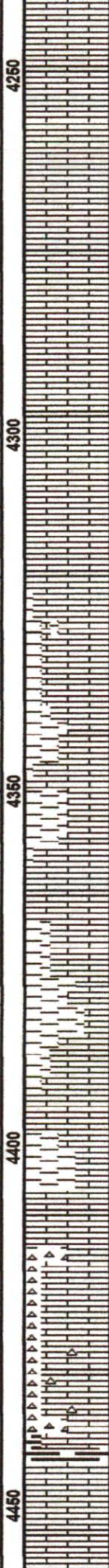
200



WOB 35K
 SPM 80
 PP 950
 SPM 60

ROP (min/ft) 10
 Gamma (API) 150

T/STARK
 4,440' (-2879')



LS: OFF WT-GY-TN-BRN, MICRO-XLN,
 SLI DNS, SM P.P.POR, SLI SHLY, ARG,
 SLI FOSS, TR CALC, ABT DUL BRNSH
 YEL FLU, NO VIS STN, CUT, OR ODOR

LS: AAB

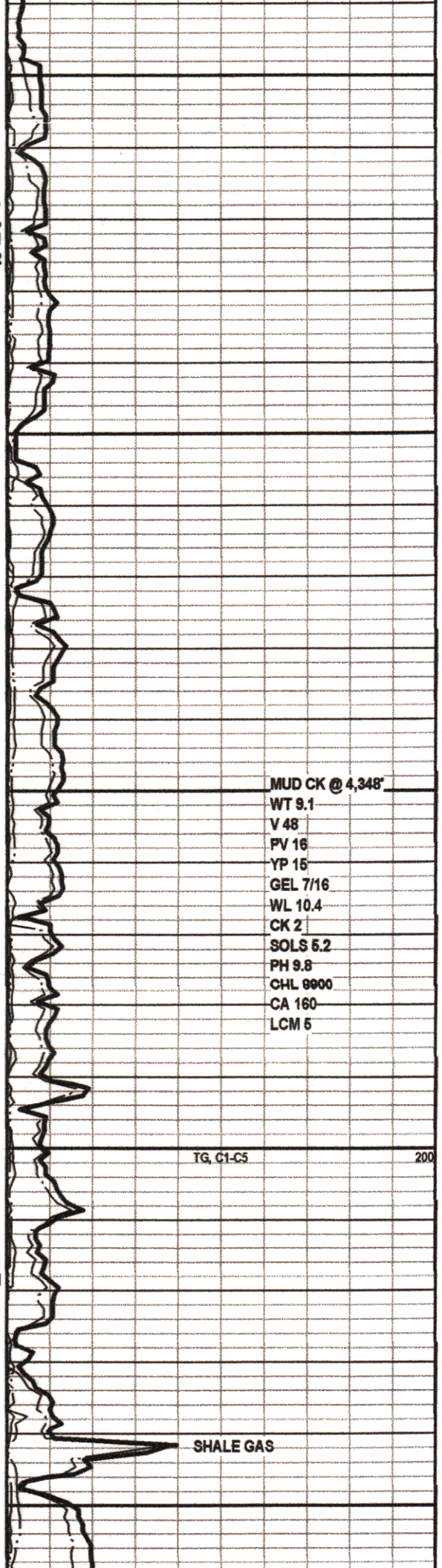
LS: TN-BRN-GY, V/FN MICRO-XLN,
 DNS, SHLY I.P., FR CALC THROUT,
 SLI ARG, SM BRNISH YEL FLU, NO
 VIS STN, CUT, OR ODOR

LS: AAB W/ SM SH: GY- DK GY, F/VN
 TEXT, MD FM, MICA, FR PYR, SLI
 CALC

LS: TN-BRN-DK BRN, MICRO-XLN, SLI
 SUC, GD P.P.POR, V/ARG, SLI CHTY,
 W/ ABT WT-GY-OPA FRSH CHT, ABT
 YEL FLU, NO VIS STN, CUT OR ODOR

SH: DK GY-BRN-BLK, V/FN TEXT,
 WXY, MD FM-HD, PLTY, PYR'C, CALC,
 CARB

LS: OFF WT-TN-BRN-DK BRN,
 MICRO-XLN, SLI SUC, SM GD
 P.P.POR, SLI OOL'C, ARG, SM GSY

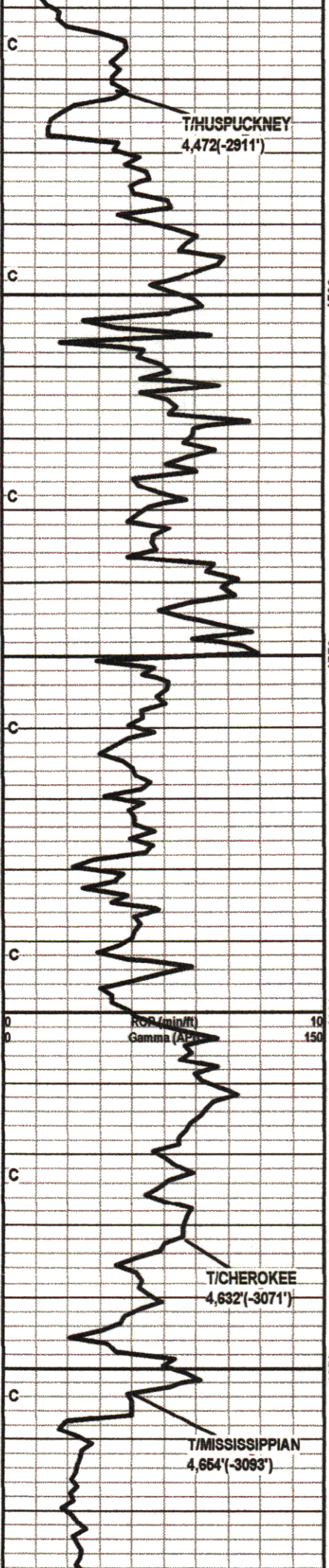


MUD CK @ 4,348'

WT 9.1
 V 48
 PV 16
 YP 15
 GEL 7/16
 WL 10.4
 CK 2
 SOLS 5.2
 PH 9.8
 CHL 0900
 CA 160
 LCM 5

TG, C1-C5 200

SHALE GAS



T/HUSPUCKNEY
4,472(-2911')

T/CHEROKEE
4,632(-3071')

T/MISSISSIPPIAN
4,654(-3093')

4500
4550
4600
4650

RCP (min/ft)
Gamma (API)

BUB, DUL YEL FLU, NO VIS STN, CUT, OR ODOR

SH: DK GY-BRN-BLK, V/FN TEXT, WXY, CARB

SH: AAB W/ABT LS: TN-BRN-GY, V/FN MICRO-LXN, HD DNS, ARG, SHLY, FOSS, SM DUL YEL FLU, NO VIS STN, CUT, OR ODOR

SH: LT GY- GY-GRN-DK GY, VFN-FN TEXT, SFT-MD FM, PLTY, FISS, LMY, GLAU'C, PYR'C, FR PYR

LS: TN-BRN-GY, V/FN MICRO-XLN, HD DNS, ARG, SLI SHLY, FOSS, SM BRT YEL FLU, NO VIS STN, CUT, OR ODOR

LS: AAB W/ ABT SH: GY-GRN, FN TEXT, V/SFT-SFT, FISS, V/GLAU'C, PYR'C, MICA

LS: OFF WT-TN- GY-BRN, V/FN MICRO-LXN, DNS, SLI SHLY, ARG, TR OF BRT YEL FLU, NO VIS STN, CUT, OR ODOR

SH: DK GY-BRN-BLK, V/FN WXY TEXT, MD FM, V/PLTY, PYR'C, MICA, CALC, V/CARB

SS: TN-BRN-BLK, FN-MD GRN, SUBRND-RND, UNI, EXC XLN POR, SM GLAU'C SPKS, CONS, CALC, BRT YEL FLU, DK STNING, GD STRM CUT, AND SM ODOR

DOLO: OFF WT-TN-DK BRN, INTER-XLN, V/SUC, SLI FRI, LMY, SLI CHTY, EXC INTER-XLN POR, ARG, MOTT, EXC DUL YEL FLU, GD STNING, EXC STRMING CUT, AND STRNG ODOR

SHALE GAS

7/6/11
12:04 AM

MD CK @ 4,673'

WT 9.3

V 55

PV 18

YP 16

GEL 8/17

WL 10.4

CK 2

SOLS 6.3

PH 9.0

CHL 6900

CA 180

LCM 7

TG, C1-C5

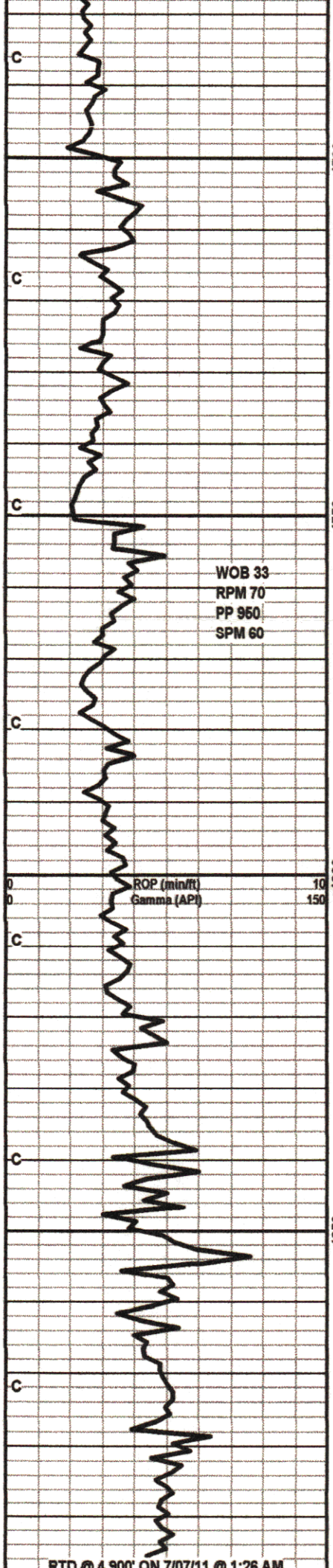
200

SHALE GAS

138u SHOW

158u SHOW

162u SHOW



WOB 33
RPM 70
PP 950
SPM 60

ROP (min/ft)
Gamma (API)

4700

4750

4800

4850

DOLO: AAB W/ ABT
CHT: WHT-TN-OPA, FRSH AND
TRIP'LC, GD YEL FLU, BRN STNING,
GD STRMING CUT, AND V/STRNG
ODOR

DOLO: TN-GRN-BRN, V/FN
MICRO-XLN, HD, V/ GD P.P.POR,
V/GALU'C, DUL YEL FLU, SLI ODOR,
NO VIS STN OR CUT

DOLO: LT GY-GY-DK GY, V/FN
MICRO-XLN, DNS, HD, V/SHLY, NO
VIS FLU, STN, CUT, OR ODOR

DOLO: OFF WT-TN-BRN-DK BRN,
MICRO-XLN W/ SM INTER-XLN, HD,
SUC, GD P.P.POR AND INTER-XLN,
LMY I.P., SM DUL YEL FLU, NO VIS
STN, GD STRMING CUT, NO ODOR

LS: OFF WT-TN-GRN, V/FN
MICRO-XLN, HD DNS, TR P.P.POR,
GLAU'C, SLI DOLO, SLY, SLI ARG,
FR CALC, SM WHTISH YEL FLU, NO
VIS STN, CUT, OR ODOR

LS: AAB

SHORT TRIP, CTCH 1 /12 HR,
SURVEY TOILET FOR FL 000

208u SHOW

362u SHOW

TG, C1-C5

RECYC GAS

208

