

Comments

MCWL PALADIN GEOLOGICAL
 717 26TH AVE NW
 Norman OK 73069
 918-815-5148 (cell)
 405-360-7333 (office)

BIG RIG #1

Rig Managers:

Directional Drillers:

MWD Operators:






































































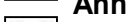
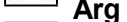

Mud Engineers:

Mid Continent Well Logging Services, Inc.; Norman Ok. Logging Unit:
Equipment: MCWL 1019 IR, 1045 IR
Loggers: Nick Wier
Began Logging: 09/27/2019 @ 8,410' MD
Finished Logging: 10/10/2019 @ 14,307'

ROCK TYPES

 Sndylm  Anhy  Bent  Brec  Cht  Clyst	 Coal  Congl  Dol  Gyp  Igne  Lmst	 Meta  Mrlst  Salt  Shale  Shcol  Shgy	 Ss  Till  Hotsh  Sltst
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ACCESSORIES

<p>MINERAL</p>  Anhy  Arggrn  Arg  Bent  Bit  Brecfrag  Calc  Carb  Chtdk  Chtlt  Dol  Feldspar  Ferrpel  Ferr  Glau  Gyp  Hvymin  Kaol  Marl	 Minxl  Nodule  Phos  Pyr  Salt  Sandy  Silt  Sil  Sulphur  Tuff	<p>FOSSIL</p>  Algae  Amph  Belm  Bioclst  Brach  Bryozoa  Cephal  Coral	 Crin  Echin  Fish  Foram  Fossil  Gastro  Oolite  Ostra  Pelec  Pellet  Pisolite  Plant  Strom	 Dol  Gyp  Ls  Mrst  Ssstrg  Sltstrg	<p>TEXTURE</p>  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest	<p>STRINGER</p>  Sndylm  Anhy  Arg  Bent  Coal
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OTHER SYMBOLS

- POROSITY**
- Earthy
 - Fenest
 - Fracture
 - Inter
 - Moldic
 - Organic
 - Pinpoint
 - Vuggy

Sndylm

- SORTING**
- Well
 - Moderate
 - Poor

ROUNDING

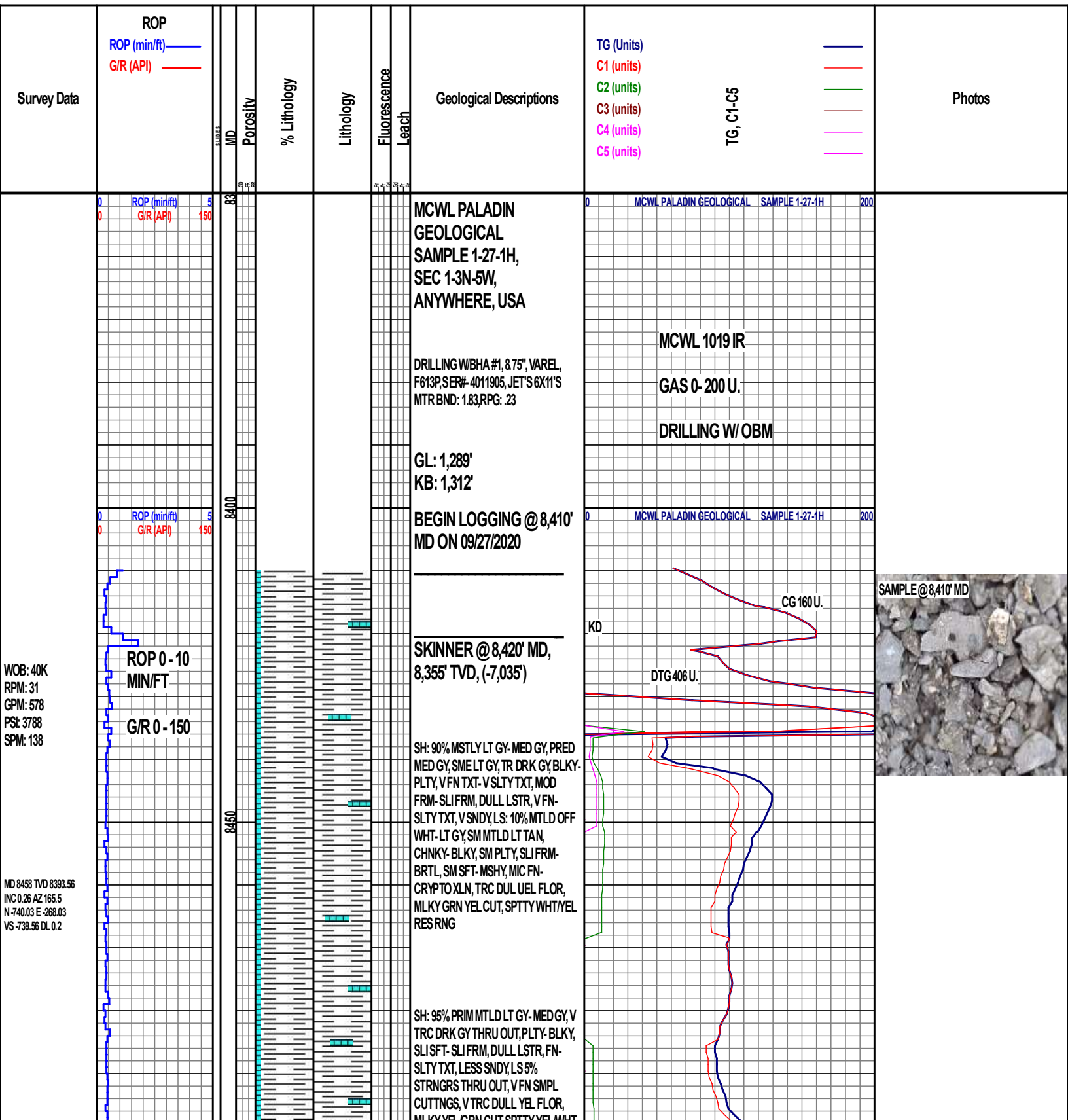
- Rounded

- Subrnd
- Subang
- Angular

- OIL SHOW**
- Even
 - Spotted
 - Ques
 - Dead

- INTERVAL**
- Core
 - Dst

- EVENT**
- Rft
 - Sidewall

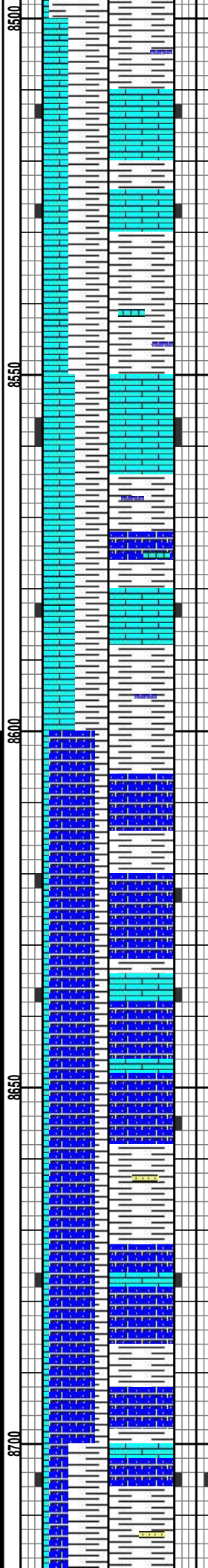
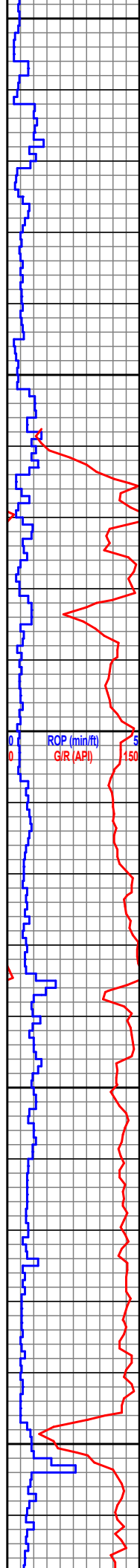


MD 8553 TVD 8488.56
INC 0.22 AZ 77.88
N-740.2 E -267.8
VS-739.73 DL 0.35

WOB: 40K
RPM: 31
GPM: 578
PSI: 3889
SPM: 138

MD 8652 TVD 8587.55
INC 1.32 AZ 28.4
N-739.16 E -267.07
VS-738.69 DL 1.2

MD 8683 TVD 8618.49
INC 5.63 AZ 356.14
N-737.33 E -267.01
VS-736.86 DL 14.74



RES RING

RED FORK @ 8,512' MD, 8,447' TVD, (-7,135')

SH: 60% MSTLY MED GY- LT GY, SME DRK GY, BLKY-PLTY, SLI FRM- MOD FRM, OCC V FRM, V SLTY TXT- V FN TXT, DULL LSTR, V SNDY, LS: 40% PRED CRM- LT BRN, SCAT MTLD OFF WHT; PLTY- CHNKY, SM BLKY, MOD FRM- BRTL, OCC SLI FRM, MIC FN XLN- CRYPTO XLN, V FN SEMPL CUTTINGS, DUL YEL FLOR, THK FNT MLKY GRN YEL CUT, THN SPTTY BRI YEL/WHT RES RING

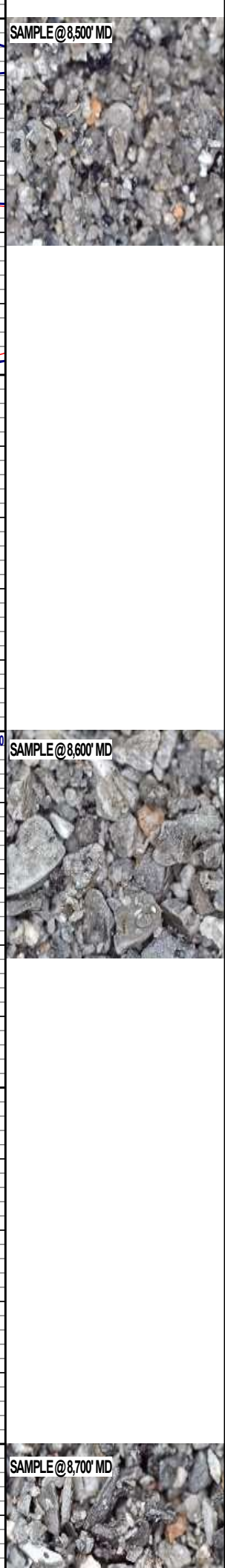
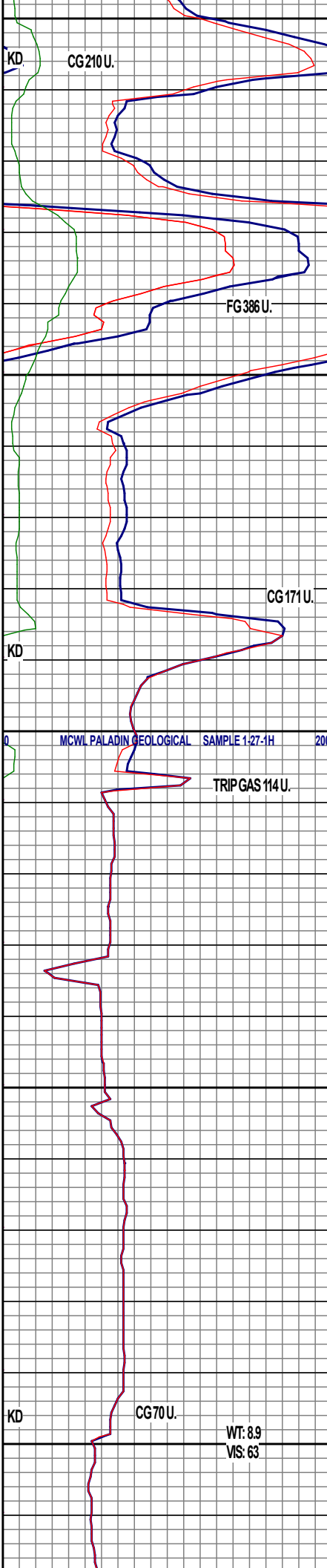
SH: 50% PRED MED GY, SME LT GY, TR DRK GY, BLKY-PLTY, V FN TXT- V SLTY TXT, MOD FRM- SLI FRM, DULL LSTR, V SNDY, LS: 50% MSTLY CRM- LT BRN, SME MED BRN INCL, OCC MTLD OFF WHT W/BRN INCL, CHNKY, SME PLTY- BLKY, BRTL- SLI FRM, SME SFT, CRYPTO XLN- MIC FN XLN, V FN SEMPL CUTTINGS, TR DUL YEL FLOR, THK MLKY GRN CUT, BRISPTTY BLU/WHT RES RING

T.O.H @ 8,606' MD FOR CURVE ASSEMBLY

DRILLING WBHA #2, 8'75", BAKER, KMX424, SER#- 5301496, JET'S 4X18'S MTR BND: 2.25, RFG: 49

SNDYLS: 70% PRED LT-MD GY, SM DK GY, MOD FM-FM, SM BRTL, BLKY-PLTY, SM IRREG, VFN-MIC FN GRNS, PR INTRGRN POR, ARG LAM, 20% SH: PRED MD-DK GY, OCC DK BRN, MOD FM, SM SFT-CRMBLY, BLKY-IRREG, SM GRD TO SLTSTN, 10% LS: PRED WH-OFF WH, SM LT GY, MOD FM, SM VFM, BLKY-PLTY, SM ANG, VFN-MIC FN XLN, PR INTRXLN POR, TRC V DUL GRN FLUOR, SLW FNT MLKY WH CUT, THN SPTTY MLKY WH GRNSH RES RING

SH: 60% PRIM GY-MED GY, OCC DK GY SEEN, SM BRN SCAT THRU OUT, SLI FRM- MOD FRM, SM SFT-CRMBLY, FLKY-BLKY, DULL LSTR, SLTY TXT, SLI SNDY, SNDYLS: 30% MSTLYLT-MED GY, SM DRK GY PRSNT, PLTY-BLKY, SM CHNKY, MIC FN- FN GRNS, PR INTRGRN POR, LS: 10% STRNGRS THRU OUT SEMPL, SS STRNGRS SEEN, TRC V DUL YEL GRN FLOR, MLKY YEL GRN CUT, SPTTY WHT/YEL RES

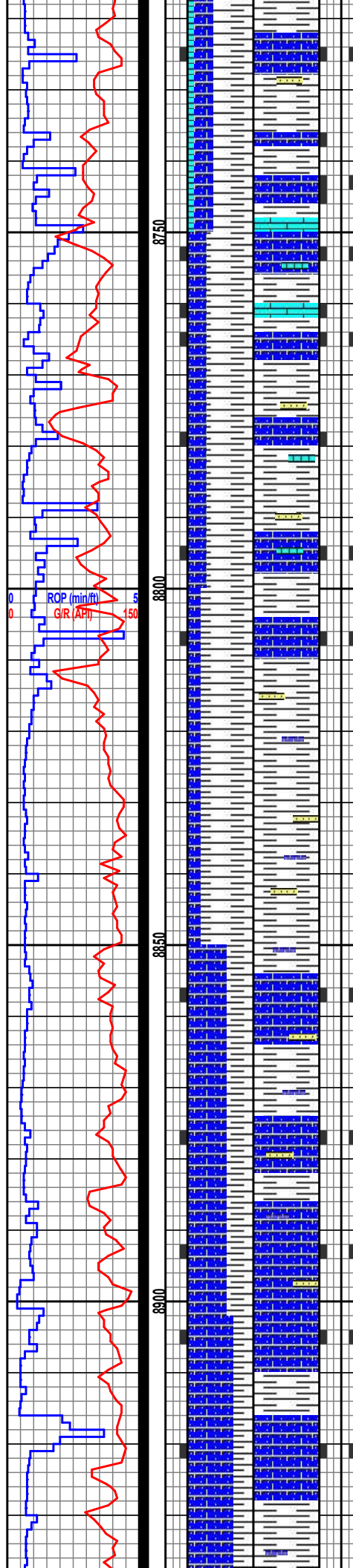


WT: 8.9
VS: 63

MD 8747 TVD 8681.51
INC 13.85 AZ 358.07
N -726.52 E -267.48
VS -726.05 DL 12.85

WOB: 12K
RPM: 0
GPM: 589
PSI: 3340
SPM: 140

MD 8842 TVD 8771.02
INC 24.84 AZ 353.06
N -695.25 E -270.28
VS -694.78 DL 11.69



**CHESTER @ 8,729' MD,
8,664' TVD, (-7,352')**

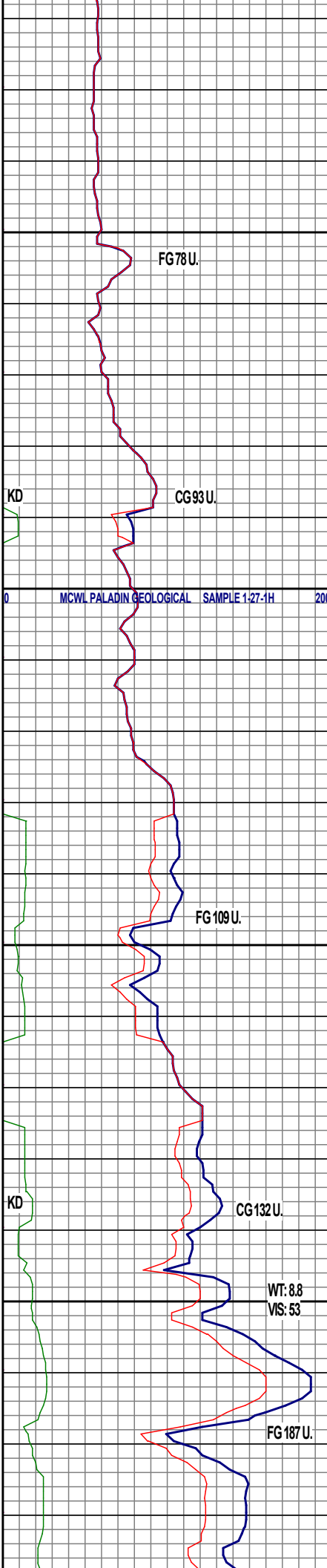
SH: 70% MSTLY MED GY-DRK GY, OCC BRN, BLKY-PLTY, SLI FRM-MOD SFT, SM CRMBLY, ERTHY-DULL LSTR, SLTY-V FNTXT, SNDYLS: 30% PRIM MED GY-LT GY, BLKY-PLTY, MOD FRM-FRM, OCC BRTL, FN-MIC FN GRNS, PR INTRNLR POR, MIC FN SS GRNS & LS STRNGRS SCAT THRU OUT, VFN SMPL CUTTNGS, TRC V DULL YEL/GRN FLOR, MLKYEL/WHT CUT, SPTTY WHT/YEL RES RNG

SH: 80% PRED DRK-MED GY, OCC BRN, BLKY-PLTY, SLI FRM-MOD SFT, OCC CRMBLY, DULL LSTR, SLTY-V FN TXT, SNDYLS: 20% MED GY-LT GY, BLKY-PLTY, FRM-MOD FRM, SCAT BRTL, FN-MIC FN GRNS, PR INTRNLR POR, ABUND MIC FN SS GRNS PRSNT, VFN SMPL CUTTNGS, TRC V DULL YEL/GRN FLOR, BRT MLKY YEL/WHT CUT, SPTTY WHT/YEL RES RNG

SNDYLS: 60% MSTLY LT GRY-MED GR, SM BRN, CHNKY-BLKY, TR PLTY, SLI FRM-MOD SFT, V CRMBLY, V FN-FN GRNS, PR INTRNLR POR, SH: 40% PRIM DRK GY-MED GY, SM V DRK SEEN, OCC MILD BRN, TRC BLK, BLKY-CHNKY, MOD FRM-FRM, SM BRTL, OCC SLI SFT, SLTY-FN TXT, DULL LSTR, MOD SNDY, TRC DUL YEL FLOR, BRT MLKY YEL/WHT CUT, SPTTY THN WHT/BLU RES RNG

**MERAMEC @ 8,876' MD,
8,801' TVD, (-7,489')**

SNDYLS: 70% PRIM MTL D MED GY-LT GRY, SM DRK GY PRSNT, BLKY-CHNKY, OCC PLTY, MOD SFT-SLI FRM, V CRMBLY, FN GRNS-VFN GRNS, PR INTRNLR POR, SH: 30% MSTLY MED GY-LT GY, OCC V DRK GY SEEN, SM MTL D BRN, CHNKY-BLKY, FRM-MOD FRM, OCC BRTL, SM SLI SFT, FN TXT-SLTY TXT, DULL LSTR, V SNDY, SS & LS STRNGRS, TRC DULL YEL FLOR, MLKY YEL/WHT BRT CUT, THN SPTTY BLU/WHT RES RNG



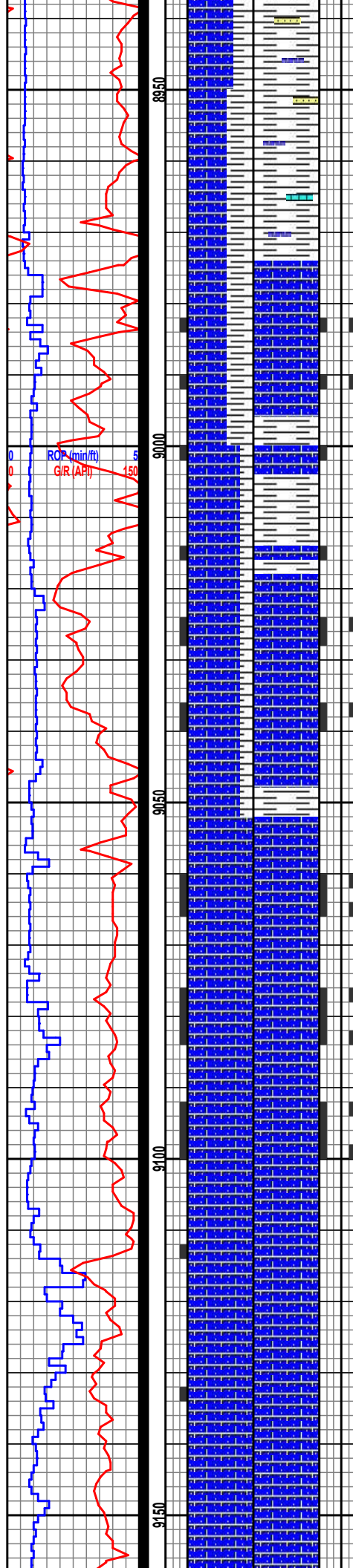
MD 8938 TVD 8854.65
INC 33.76 AZ 352.36
N -648.7 E -276.27
VS -648.22 DL 9.3

WOB: 39.3K
RPM: 0
GPM: 552
PSI: 3190
SPM: 131

1/5/19 @9,000'
MD

MD 9034 TVD 8928.99
INC 44.53 AZ 353.33
N -588.65 E -283.75
VS -588.16 DL 11.24

MD 9128 TVD 8989.86
INC 54.68 AZ 359.3
N -517.35 E -288.06
VS -516.84 DL 11.82



SNDYLS: 60% PRED MTLD DRK GY-MED GY, OCC DRK GY, OFF WHT INCLU, CHNKY-BLKY, TRC PLTY, SU FRM-MODSFT, CRUMBLY THRU OUT, V FN GRNS-FN GRNS, PR INTRGRNLR POR, SH: 40% PRIM LT GY-MED GY, SM DRK GY, CLKY-PLTY, MOD FRM-FRM, SM SFT, SLTY TXT, SM V FN TXT THRU OUT, DULL-ERTHY LSTR, V SNDY, LS & SS STRNGRS, SCAT DULL YEL FLOR, MLKY YEL/GRN BRT CUT, SPTY THN WHT/BLU RES RNG

MERAMEC E @ 8,987' MD
8,893' TVD, (-7,581')

SNDYLS: 80% MSTLY MED GY- MTLD LT GY, SM DRK GY, OFF WHT- LT GRV INCLU, BLKY-CHNKY, MOD SFT-FRM, ABUND CRMBLY THRU OUT, FN-V FN GRNS, PR INTRGRNLR POR, SH: 20% PRED GY-MEDGY, SM DRK GY SEEN, BLKY-PLTY, FRM: SU FRM, OCC SFT, ERTHY-DULLLSTR, V SNDY, LS & SS STRNGRS SEEN, SCATV DULL YEL FLOR, MLKY BRT GRN/YEL CUT, SPTY YEL/GRN RES RNG

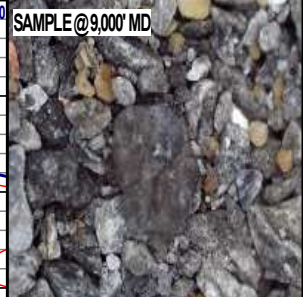
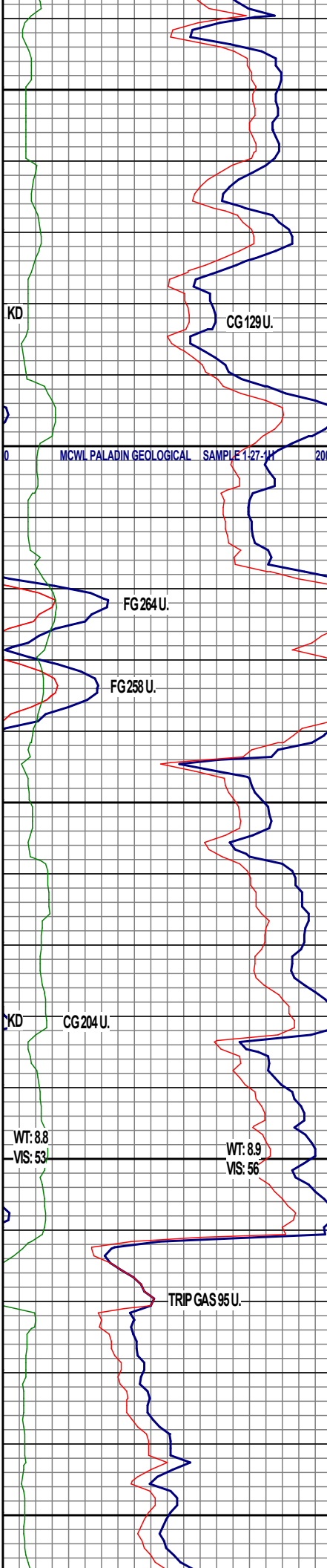
MERAMEC D @ 9,037' MD,
8,931' TVD, (-7,619')

MERAMEC C @ 9,076' MD,
8,956' TVD, (-7,644')

SNDYLS: 100% PRED DRK GY- V DRK GY, SM MED GY PRSNT, MTLD LT GRV INCL, CHNKY-BLKY, SM SCATPLTY, MOD SFT-FRM, V CRMBLY, V FN-FN GRNS, PR INTRGRNLR POR, SCAT DRK GY SH STRNGRS THRU OUT, SCAT DULL YEL FLOR, BRT GRN/YEL MLKY CUT, SPTY GRW YEL RES RNG

MERAMEC B @ 9,122' MD,
8,986' TVD (-7,674)

T.O.H @ 9,112' MD FOR NEW MOTOR
BIT #2, 8.75", BAKER, KMX424, SER#: 5301496, JET'S 4X18'S
MTR BND: 2.7,RPG: 28
100% SNDYLS: PRED MD-DK GY, SM LT GY, MOD FRM-FRM, SM CRMBLY, BLKY-PLTY, SM IRREG, VFN-MIC FN GRNS, SM CTNGS ARG, SM GRD TO SLTJSTN, TRC OF OFF WH LS STRNGRS, NO FLUOR, V SLW MLKY GRN CUT, THN RNT MLKY GRN RES RING



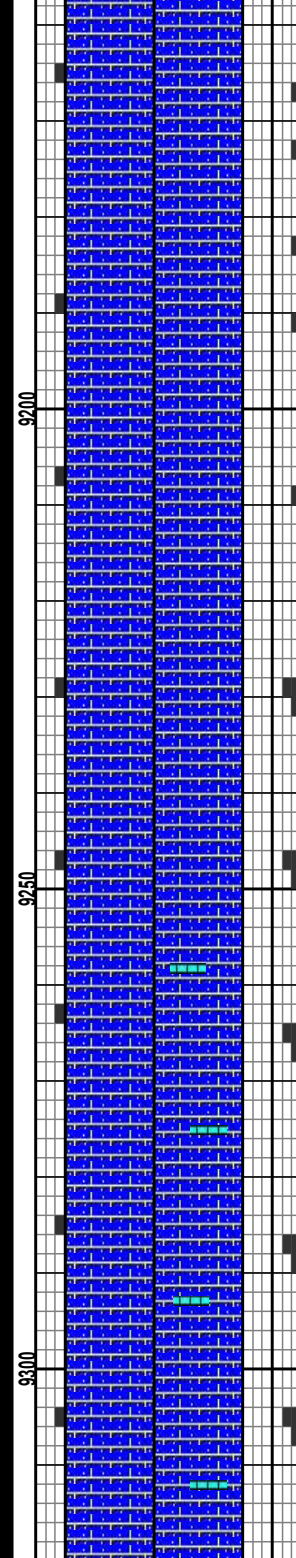
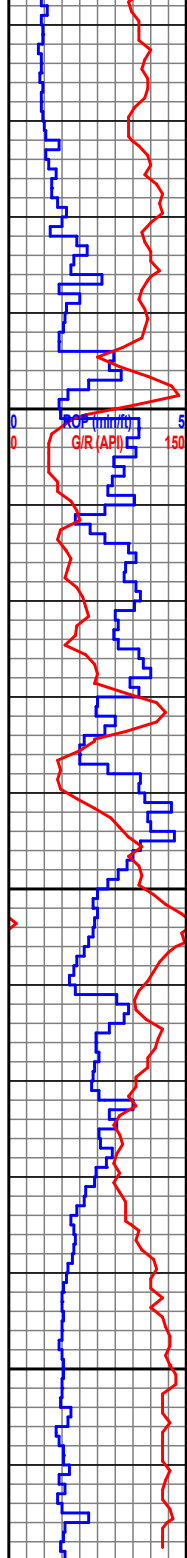
MUD CHECK
DEPTH: 9,085'
MW: 8.9
VIS: 58
PV: 14
YP: 16
GEL: 14/18/19
API: 0
CK: 0/2
SOL: 7.9
pH: 0
CHL: 75,000
CAL: 41,800



WOB: 52.0K
RPM: 0
GPM: 552
PSI: 3587
SPM: 140

MD 9224 TVD 9032.84
INC 72.18 AZ 357.55
N 431.99 E 290.53
VS 431.48 DL 18.49

1/6/20 @ 9,320'
MD



**MERAMEC A @ 9,177' MD,
9,012' TVD (-7,700)**

SNDYLS: 100% MD-DK GY, OCC LT GY,
MOD FM-FM, SM SFT-CRMBLY, OCC
BRTL, BLKY-IRREG, SM PLTY, VFN-MIC
FN GRNS, PR INTRGRN POR, SM
CTTNGSARG, SM GRD TO SLTSTN,
SM OF SLTSTN MOD-V-CALC, NO
FLUOR, SLW MLKY GRNSH YEL CUT,
THN SPTTY YEL RESRNG

SNDYLS: 100% PRED DRK GRY- MED
GRY, SM LT GRY PRSNT, BLKY-
CHNKY, FRM- MOD FRM, OCC SFT,
ABUND CRMBLY THRU OUT, MIC FN-
FN GRNS, PR INTRGRN POR, OCC
ARGIN SMPLE, SCAT SH/SLTST
STRGNRS PRSNT, NO FLOR, MLKY
BRT YEL/GRN CUT, SPTTY THN
YEL/WHT RESRNG

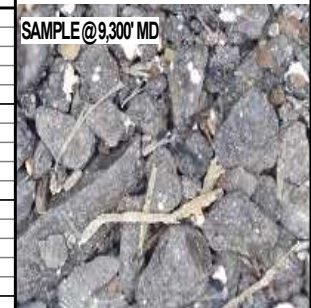
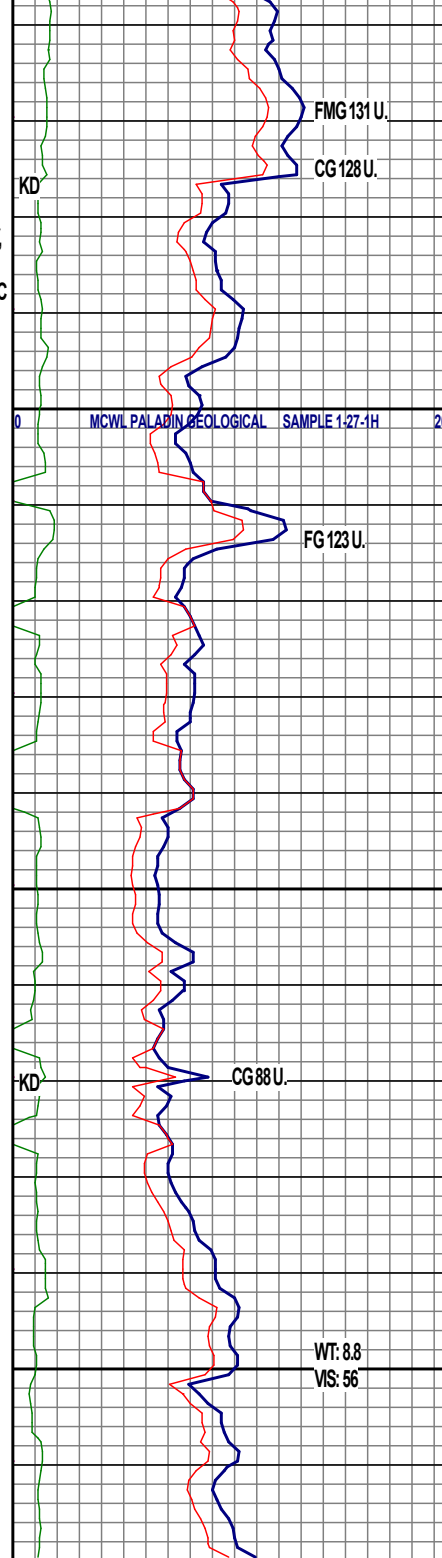
SNDYLS 100% MSTLY MED GRY- DRK
GRY, OCC MTL D V DRK GRY, SM LT
GRY THRU OUT, CHNKY-BLKY, SM
FLKY, MOD FRM- FRM, ABUND
CRMBLY, TRC MOD SFT, VFN GRNS-
MIC GN GRNS, PR INTRGRN POR,
SCAT SLTST & LS STRNRS THRU
OUT, NO FLOR, BRT MLKT GRN/YEL
CUT, THN SPTTY WHT/YEL RESRNG

T.O.H @ 9,320' MD FOR
LATERAL ASSEMBLY

SWITCHED TO
HORIZONTAL LOG 1/6/20

MCWL PALADIN
GEOLOGICAL
SAMPLE 1-27-1H,
SEC 1-3N-5W,
ANYWHERE, USA

GL: 1,289'



ROP 0-10
MIN/FT
G/R 0-150

MCWL 1019 IR
DRILLING W/ OBM

