



# RESERVOIR GROUP

Scale: 5" / 100'  
Measured Depth Log

**Well Name** 70 Ranch 10-18-3L

**Location** 40°20'05.100"N , 104°25'47.136"W

**State** Colorado

**Country** USA

**API Number** 05-123-46612

**County** Weld

**Rig Number** Ensign 140

**AFE #** 101026

**Geographic Region** Rockies

**Field** Wattenburg

**Spud Date** 6/1/2019

**Drilling Completed** 8/3/2019

**Surface Coordinates** 40°20'05.100"N  
104°25'47.136"W

**Bottom Hole Coordinates** 40°18'22.608"N  
104°25'47.604"W

**Ground Elevation** 4,595'

**K.B. Elevation** 4,615.5'

**Logged Interval** 6,000' To 16,525'

**Total Depth** 16,525'

**Formation** NIO C

**Type of Drilling Fluid** Synthetic Oil Based Mud

## Operator

**Company** CONFLUENCE DJ LLC

**Address** 621 17th St. STE. 1401  
DENVER, CO. 80293



## Geologist

**Name** Robin Swank

**Company** CONFLUENCE DJ LLC

**Address** 621 17th St. STE. 1401  
DENVER, CO. 80293



## Other

**Service Type** 2 Man Logging + AGS

**Logger(s)** Greg Diefenbach (Days)/Micah Morgan(Nights)

**Equipment** ML-549














**Start Date** 7/29/2019

**Release Date** TBD










**Address** 6360 W Sam Houston Pkwy N  
Houston, TX 77041

**Job #** 2365RK1908

## Access

<b>Fossils</b>	F FOSSIL	- ARGILLACEOUS
	GASTROPOD	/ ARGILLITE GRAIN
	ALGAE	Ø OOITE
	AMPHIPORA	⊖ OSTRACOD
	BELÉNITE	⌋ PELECYPOD
	BIOCLASTIC	⌋ PELLET
	BRACHIOPOD	⊗ PISOLITE
	BRYOZOA	⌋ PLANT REMAINS
	CEPHALOPOD	\$ PLANT SPORES
	CORAL	⌋ SCAPHOPOD
	CRINOID	⌋ STROMATOPOROID
	ECHINOID	⌋ DOLOMITIC
<b>Minerals</b>	+ FELDSPAR	• FERRUGINOUS PEL.
	FISH	⌋ FERRUGINOUS
	FORAMINIFERA	⌋ ANHYDRITIC

## Color Coding

	Oil		Condensate		Gas
	Note		Core		Pressure
	Error		Water		Seal

## Other S

	ORGANIC		FO
	PINPOINT		GAS SH
	VUGGY		MINDEPTH
	DEAD		NORMA
	EVEN		OIL SH
	QUESTIONABLE		OVERTURN
	SPOTTED STAINING		REVERS

























## Engineering

	CASING		WIRELINE
	BIT		SLIDE
	CONNECTION (LEFT)		SURV
	CONNECTION (RIGHT)		TRIP
	CONNECTION GAS		WIRELINE
	FRACTURE		FAULT
	INTERFRACTURE		WIRELINE
	INTERCRYSTALLINE		WIRELINE
	INTERCRYSTALLINE		WIRELINE
	MOLDIC		WIRELINE


























## Porosity

	EARTHY		SIDEWALL (LEFT)
	FENESTRAL		SIDEWALL (RIGHT)
	FRACTURE		SLIDE
	INTERCRYSTALLINE		SURV
	INTERCRYSTALLINE		TRIP
	INTERCRYSTALLINE		WIRELINE
	MOLDIC		WIRELINE

## Rock Types

	UNKNOWN		DOLOMITE		SHALE GRAY		TILL
	ANHYDRITE		CHEERT		SHALE COLORED		BENTONITE
	GYPSUM		COAL		SILTSTONE		TUFF
	SALT		MARLSTONE		SANDSTONE		IGNEOUS
	CHALK		CLAYSTONE		CONGLOMERATE		METAMORPHIC
	LIMESTONE		SHALE		BRECCIA		CEMENT

# series

	GLAUCONITE		
	GYPsIFEROUS		
	HEAVY MINERAL		ANHYDRITE STRINGER
	KAOLIN		BENTONITE STRINGER
	MARLSTONE		COAL STRINGER
	MINERAL CRYSTALS		DOLOMITE STRINGER
	NODULES		GYPsUM STRINGER
	PHOSPHATE PELLETS		LIMESTONE STRINGER
	PYRITE		MARLSTONE (CALC) STRG
	SALT CAST		MARLSTONE (DOL) STRG
	SANDY		SANDSTONE STRINGER
	SILICEOUS		SHALE STRINGER
	SILTY		SILTSTONE STRINGER
	TUFFACEOUS		

## Stringer

# ymbols

FORMATION TOP		L LITHOGRAPHIC
HOW		MX MICROXLN
MIN DEPTH	A ANGULAR	MS MUDSTONE
L FAULT	R ROUNDED	PS PACKSTONE
DIV	S SUBANG	WS WACKESTONE
TURNED STRATA	F SUBRND	
SE FAULT		
ALL CORE (LEFT)		M MODERATE
ALL CORE (RIGHT)	B\$ BOUNDSTONE	P POOR
	C CHALKY	W WELL
KEY	CX CRYPTOXLN	
AGAS	E EARTHY	
NE TESTED - LEFT	FX FINELYXLN	
NE TESTED - RT	ES GRAINSTONE	

## Rounding

## Sorting

## Textures

CONFLUENCE DJ LLC.

70 Ranch West 10-18-3L

Weld Co. CO.

ROP  
GAMMA  
WOBX  
TORQX

All Depths  
Correspond to  
Driller's Pipe Tally

Depth Labels

5.960 5.970 5.980 5.990 6.000 6.010 6.020 6.030 6.040 6.050 6.060 6.070 6.080 6.090 6.100 6.110 6.120 6.130

SYSTEM CALIBRATED  
1% Methane = 100 units  
100% Methane = 10000 units

MW I/O  
9.6/44  
9.4/43

Total Gas & Chromatograph  
GAS  
C1  
C2  
C3  
C4  
CO2  
H2S

% Lith

Reservoir Group 6360  
W Sam Houston Pkwy N  
Ste.100 Houston, TX 77040  
(713) 466-7400Ofc  
(713) 466-7595 Fax  
www.reservoirgroup.com

MD: 5.991'  
Inclination: 9.61°  
Azimuth: 180.1°  
TVD: 5.985.56'  
VS: 181.82'

Well Bore  
TVD

Bit #: 2  
Type: HCC  
Size: 8 1/2"  
Depth In: 1,565'  
Depth Out: 11,105'  
Hours: 34.8 hrs  
Avg Ft/Hr: 274' /h.  
Jets: 5 X 15"s  
S/N: 5292235

Spud date: 6/1/2019 Two man  
service @ 6,000' MD on 7/29/2019  
9 5/8" casing set at 1,559' MD

CATCHING 30' SAMPLE  
INTERVAL THROUGH CURVE



SH: LT TO DK GY, GRITTY TEX. DL TO  
RTHY LSTR, FRM, SB BLKY TO BLKY,  
AMOR, SB FISS TO FISS, SLTY, SL CALC

SH: LT TO DK GY, GRITTY TEX. DL TO  
RTHY LSTR, FRM TO HD, SB BLKY TO  
BLKY, AMOR, SB FISS TO FISS, SLTY, SL  
CALC, SL H2O SENS

MD: 6.080'  
Inclination: 17.93°  
Azimuth: 192.87°  
TVD: 6.071.94'  
VS: 202.66'



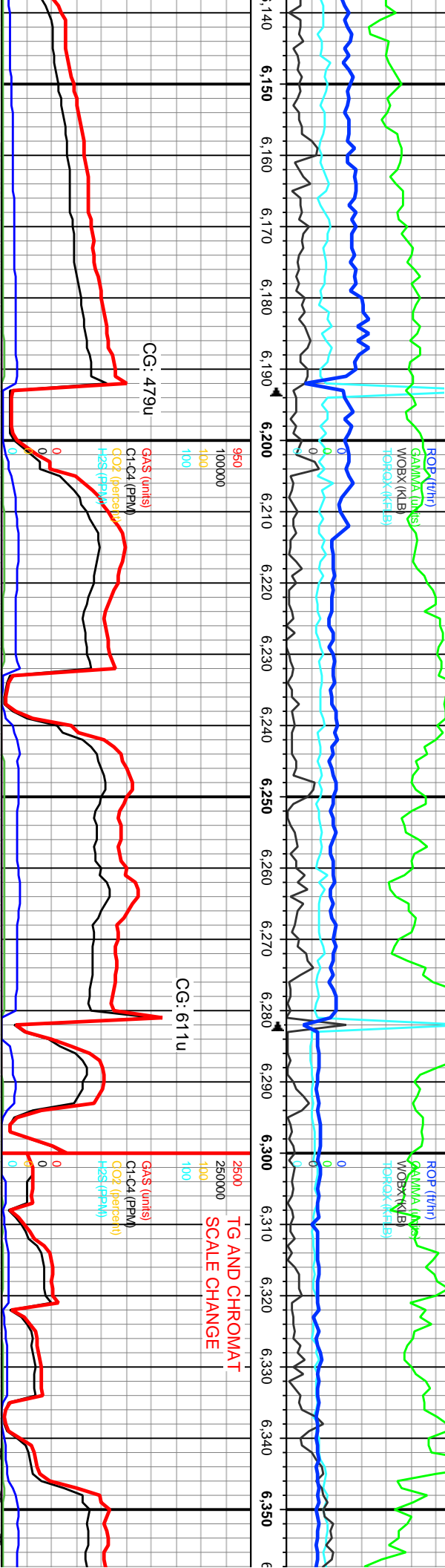
SH: LT TO DK GY, GRITTY TEX. D  
RTHY LSTR, FRM TO HD, SB BLK  
BLKY, AMOR, SB FISS TO FISS, S  
CALC, SL H2O SENS

Sharon Springs  
6,157' MD / 6,143' TVD

WOB: 3  
RPM: 120  
SPM: 204  
PP: 2.713

Nic A100  
6,338' MD / 6,285' TVD

NW I/O  
9.6+/42  
9.7+/41



CG: 479u

CG: 611u

TG AND CHROMAT  
SCALE CHANGE

MD: 6,170'  
Inclination: 28.44°  
Azimuth: 201.17°  
TVD: 6,154.58'  
VS: 236.29'

MD: 6,259'  
Inclination: 37.89°  
Azimuth: 200.44°  
TVD: 6,229'  
VS: 281.82'

MD: 6,348'  
Inclination: 49.73°  
Azimuth: 190.82°  
TVD: 6,293.18'  
VS: 341.11'

SH: LT TO DK GY, GRITTY TEX, DL TO  
RTHY LSTR, SFT TO FRM, SB BLKY TO  
BLKY, AMOR, SB FISS TO FISS, V SLTY,  
SL CALC, SL H2O SENS

SH: DK GY, BRN IP, SM TO SL GRITTY TEX,  
DL TO RTHY LSTR, SFT TO FRM, SB BLKY  
TO BLKY, AMOR, SB FISS TO FISS, SLTY,  
SL CALC, SL H2O SENS

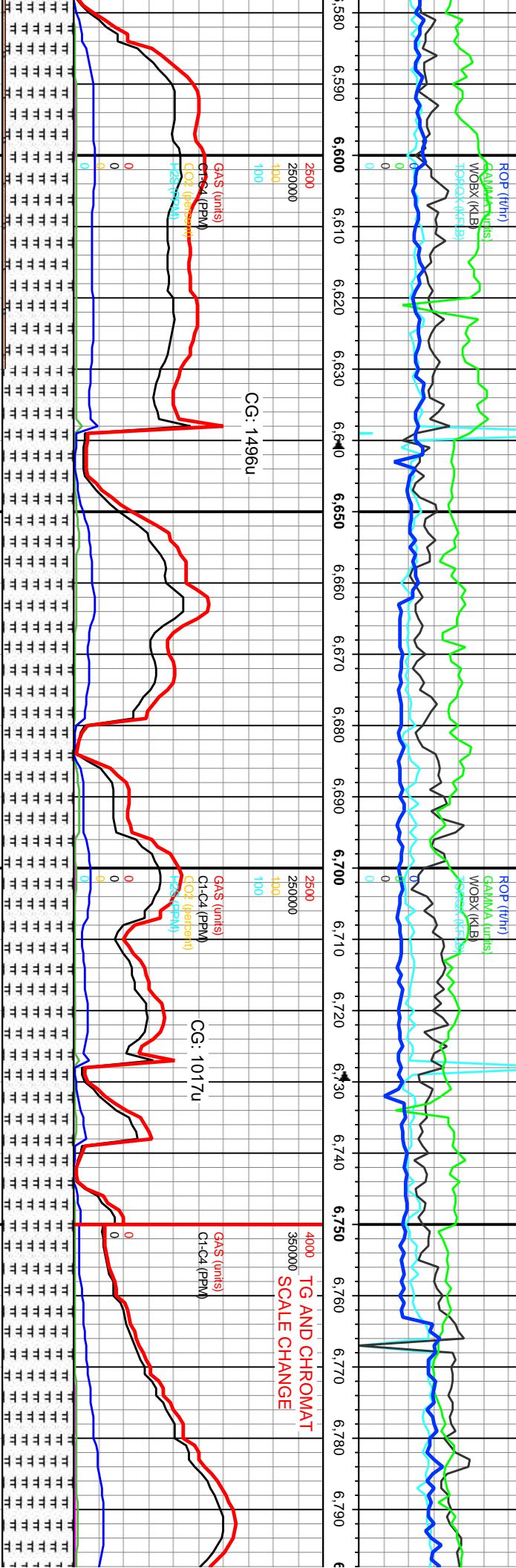
SH: DK GY, BLK IP, SM TO SL GRITTY TEX,  
DL TO RTHY LSTR, SFT TO FRM, SB BLKY  
TO BLKY, AMOR, SB FISS TO FISS, SLTY,  
SL CALC, SL H2O SENS

SH: DK GY TO BLK, SM TO SL GRITTY  
TEX, DL TO RTHY LSTR, SB WXY IP, SFT  
TO FRM, SB BLKY TO BLKY, AMOR, SB  
FISS TO FISS, SLTY IP, N CALC









TO BLK, MOT IP, STR, SFT TO FRM, BLKY, AMOR, SB , CALC, INTRBD	5800	MRSL: MUDST, DK GY TO BLK, SL GRITTY TEX, DULL LSTR, FRM TO SL HD, SB BLKY TO BLKY, AMOR, SB FISS, SLTY IP, CALC, TR CHK
	5900	MRSL: MUDST, MED TO DK GY TO BLK, SL GRITTY TEX, RTHY LSTR, FRM TO SL HD, SB BLKY, AMOR, SB FISS, SL SLTY IP CALC
	5900	MRSL: MUDST, MED TO DK GY TO BLK, SL GRITTY TEX, DULL TO RTHY LSTR, SL HD, SB BLKY, AMOR, SB FISS, SL SLTY, SL SLTY, CALC, TR CHK IP

MD: 6,616'  
Inclination: 73.49°  
Azimuth: 176.16°  
TVD: 6,415.77'  
VS: 575.96'

6850'

MD: 6,706'  
Inclination: 82.13°  
Azimuth: 178.17°  
TVD: 6,434.76'  
VS: 663.72'

6850'

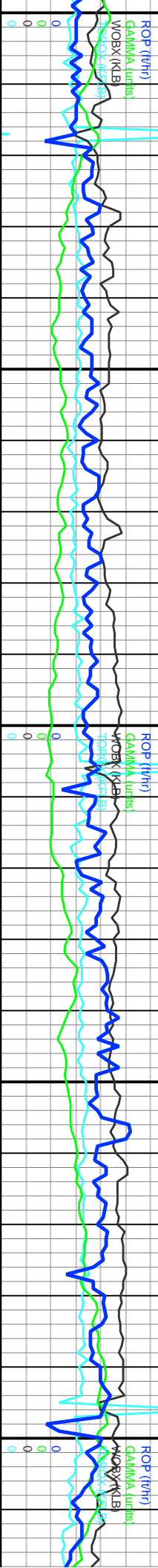
MD: 6,795'  
Inclination:  
Azimuth: 17  
TVD: 6,443  
VS: 752.24'

6850'

DEPTH: 7/31/2019  
@ 6.817' MD

MW I/O  
9.6/41  
9.6+/41

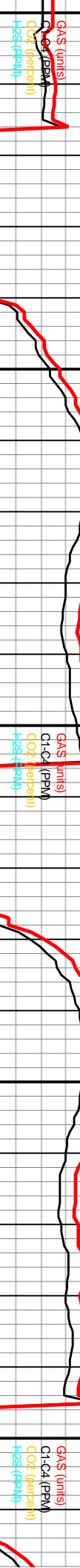
WOB: 24  
RPM: 120  
SPM: 200  
PP: 3.114



CG: 2441u

CG: 3581u

CG: 3151u



MRSLT: MUDST, DK GY, SL SM TO SL  
GRITTY TEX, DULL LSTR, FRM TO SL HD,  
SB BLKY, AMOR, SB FISS TO FISS IP, SL  
SLTY, CALC, CHKY

LP @ 6.860' MD  
CATCHING 100' SAMPLE INTERVAL

MRSLT: MUDST, MED TO DK GY, SL  
GRITTY TEX, RTHY LSTR, FRM TO SL HD,  
SB BLKY TO BLKY IP, AMOR, SB FISS, SL  
SLTY IP, CALC, CHKY

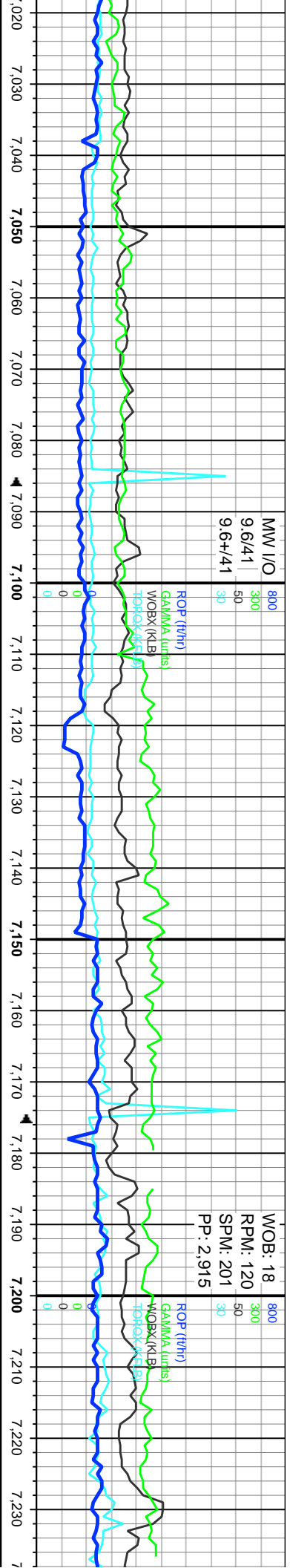
MRSLT: MUDS:  
TEX, DULL TO  
BLKY TO BLKY  
IP, SL SLTY, CA

MD: 6.884'  
Inclination: 88.31°  
Azimuth: 180.64°  
TVD: 6.447.14'  
VS: 841.15'

MD: 6.974'  
Inclination: 89.14°  
Azimuth: 182.84°  
TVD: 6.449.14'  
VS: 931.09'





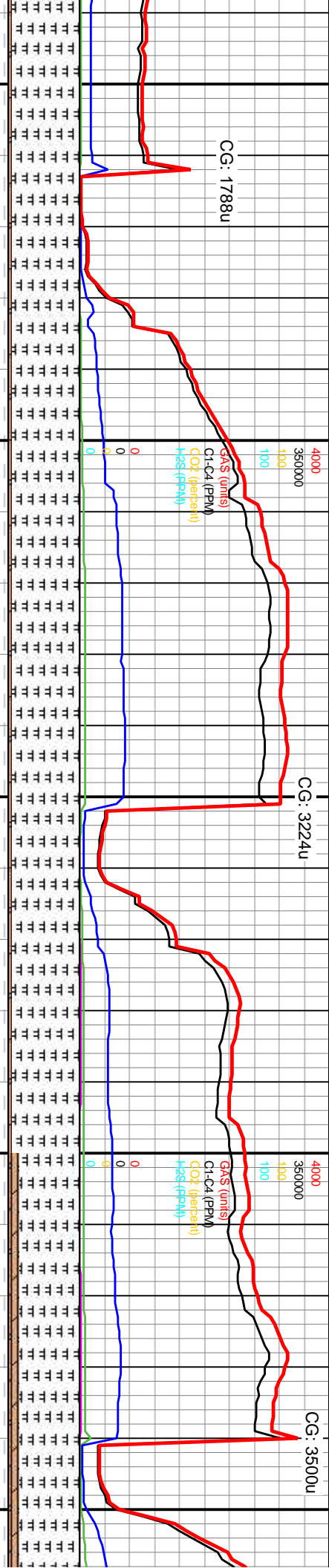
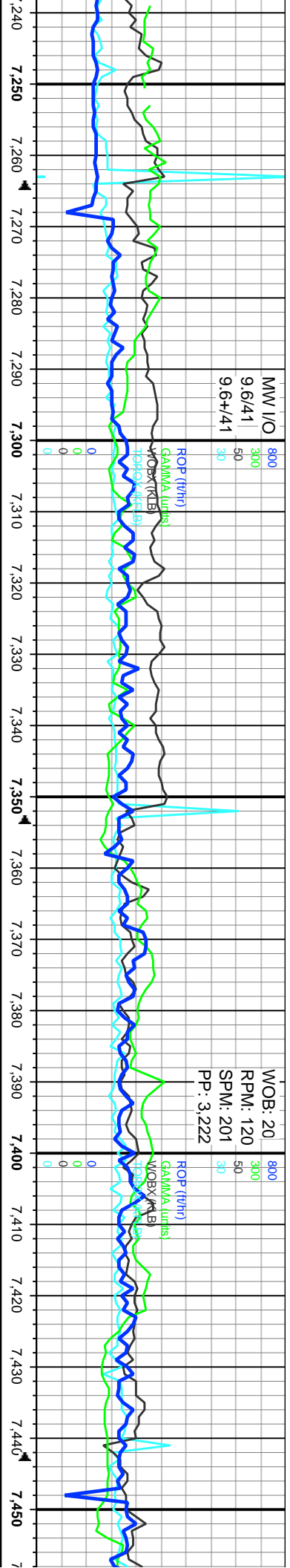


DK GY, BLK IP, SL GRITTY  
RTHY LSTR, SL HD, SB  
IP, AMOR, SB FISS TO FISS  
ALC, TR CHK

5800  
MR LST: MUDST, DK GY TO BLK, SL GRITTY  
TEX, RTHY LSTR, FRM TO SL HD, SB BLKY  
TO BLKY, AMOR, SB FISS IP, SL SLTY,  
CALC, SME CHK IP

5800  
MR LST: MUDST, DK GY TO BLK  
GRITTY TEX, RTHY LSTR, FRM  
HD, HRD IP, SB BLKY TO BLKY,  
SB FISS, SL SLTY, CALC, TR CH





MR.LST.:MUDST., DK GY TO BLK, SL  
GRTTY TEX, DULL TO RTHY LSTR, FRM  
TO SL HD, SB BLKY TO BLKY IP, AMOR  
SB FISS, SL SLTY, CALC, TR INTRBD  
CHK

5800  
MR.LST.: MUDST, DK GY TO BLK, SL  
GRTTY TEX, DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SL SLTY, CALC, TR INTRBD CHK IP;  
CHLK: LT TO DK GY, MASS, DNS,  
MICXLN IP, CALC

ation: 88.71°

MD: 7,331'  
Inclination: 88.71°

ath: 173.6°

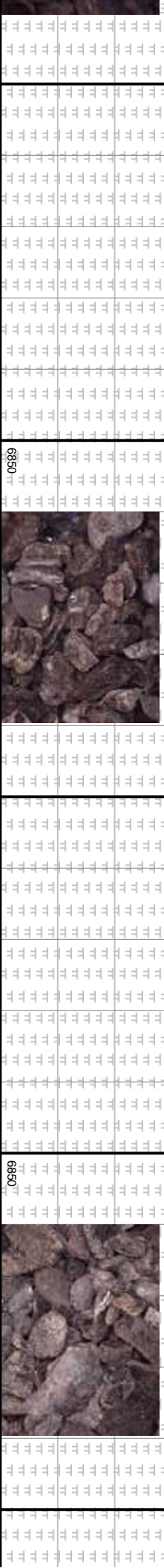
Azimuth: 176.43°

6,454.04' ±  
198.46' ±

VS: 1,287.07'

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20

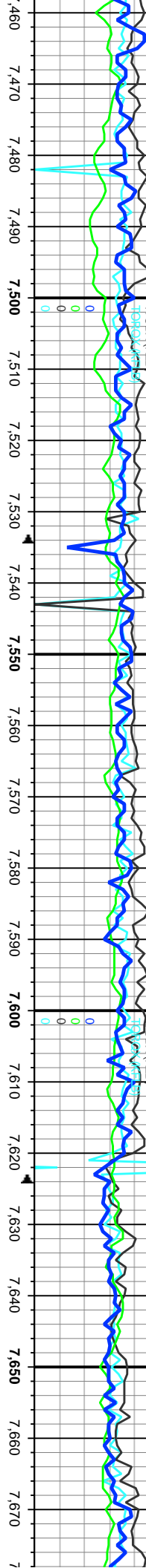
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MW I/O  
9.6/42  
9.6/41

ROP (ft/h)  
300  
50  
30  
0

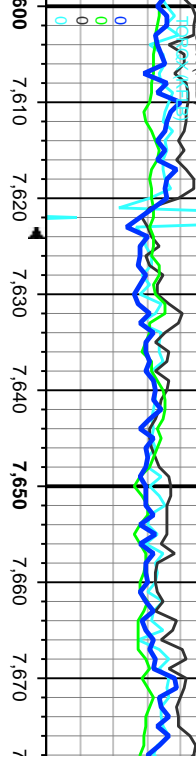
GAMMA (units)  
MOBX (KLB)



WOB: 22.7  
RPM: 100  
SPM: 202  
PP: 3.337

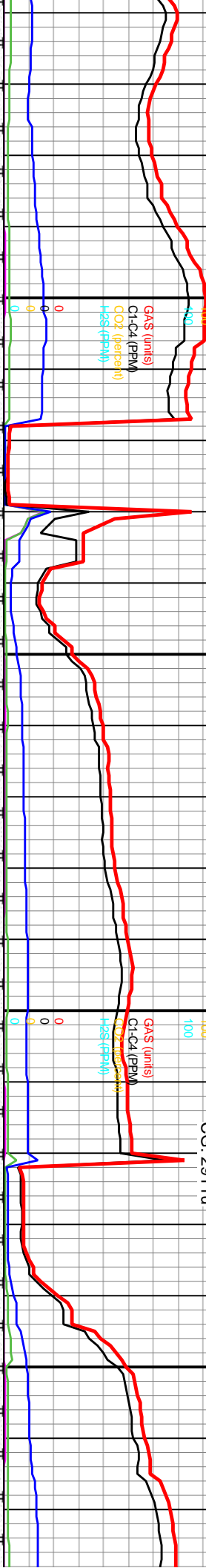
ROP (ft/h)  
300  
50  
30  
0

GAMMA (units)  
MOBX (KLB)



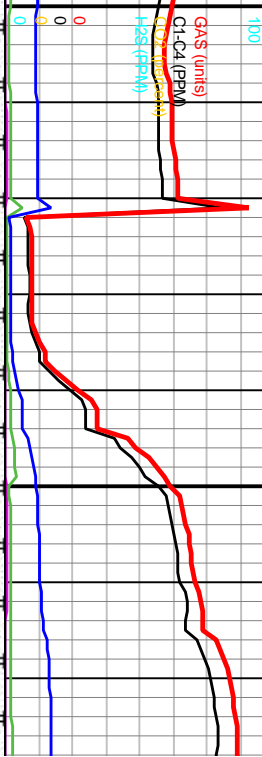
CG: 3011u

GAS (units)  
C1-C4 (PPM)  
CO2 (percent)  
H2S (PPM)



CG: 2911u

GAS (units)  
C1-C4 (PPM)  
CO2 (percent)  
H2S (PPM)



GD

5800

MRLST: MUDST, DK GY TO BLK, SL  
GRITTY TEX, DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK; CHLK:  
LT TO DK BNSHG, MASS, DNS, FRI TO  
FRM, V CALC

MD: 7.510°  
Inclination: 88.74°  
Azimuth: 180.96°  
TVD: 6,460.25'  
VS: 1,465.93'



5800

MRLST: MUDST, DK GY TO BLK, SL  
GRITTY TEX, DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK; CHLK:  
LT TO DK BNSHG, MASS, DNS, FRI TO  
FRM, V CALC

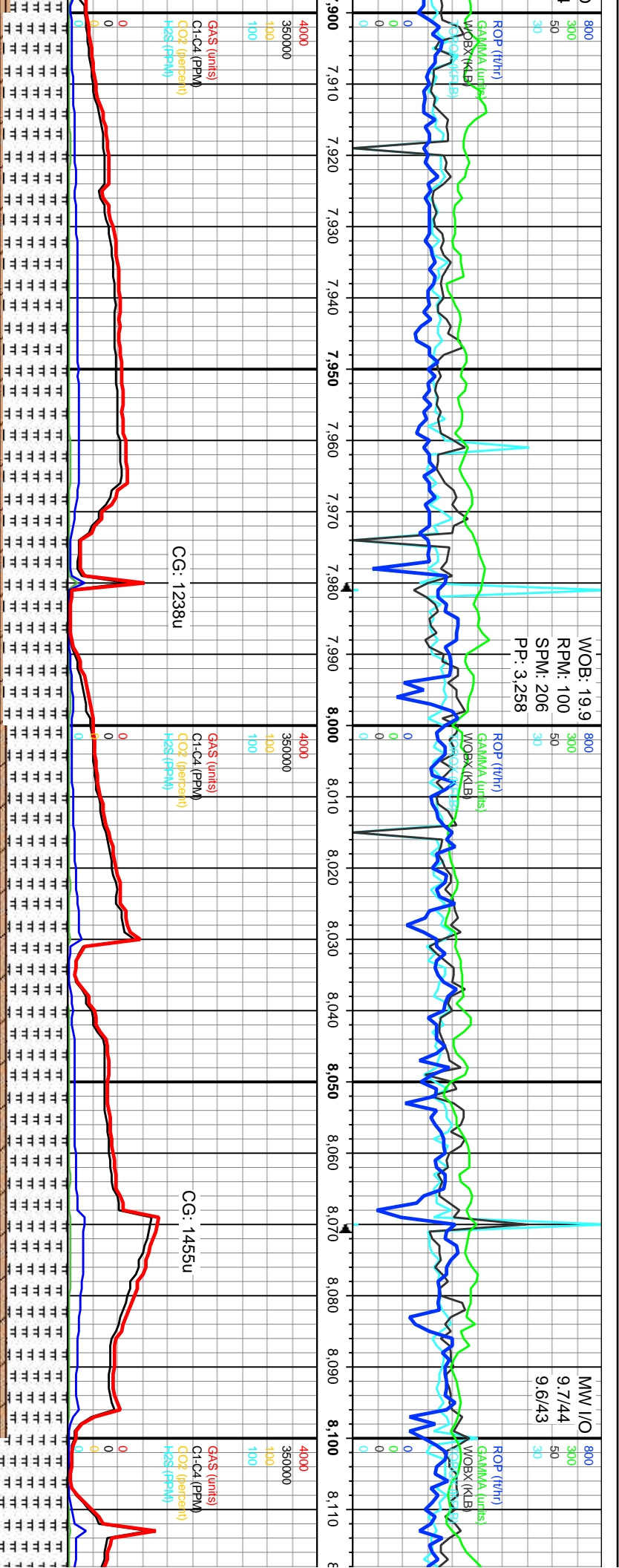
MD: 7.599°  
Inclination: 88.8°  
Azimuth: 182.07°  
TVD: 6,462.16'  
VS: 1,554.89'











5800  
MRLST: MUDST, DK GY TO BLK, SL  
GRITTY TEX, DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK: CHLK:  
LT TO DK BNSHG, MASS, DNS, FRM  
TO HD, FRI IP, V CALC

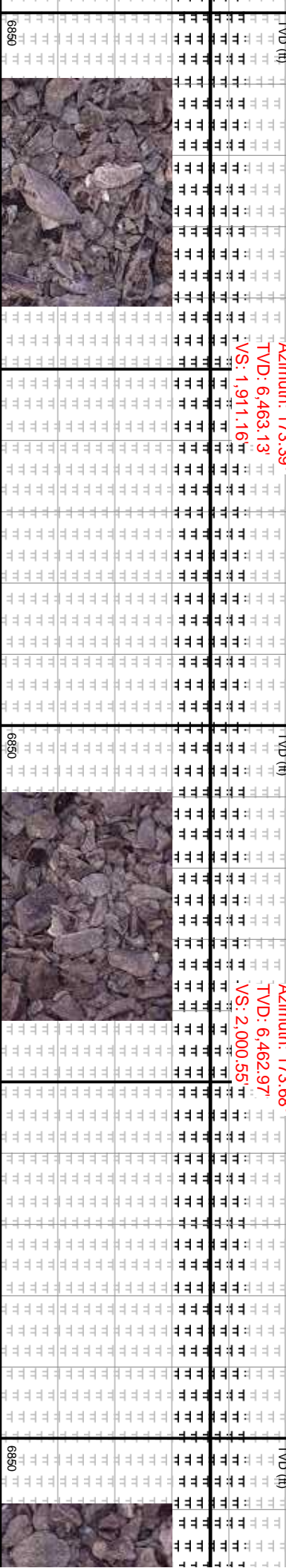
MD: 7,956'

Inclination: 90.09°

Azimuth: 173.39°

TVD (ft): 6,463.13'

VS: 1,911.16'



5800  
MRLST: MUDST, DK GY TO BLK, SL  
GRITTY TEX, DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK: CHLK:  
LT TO DK BNSHG, MASS, DNS, FRM  
TO HD, FRI IP, V CALC, TR PP PYR

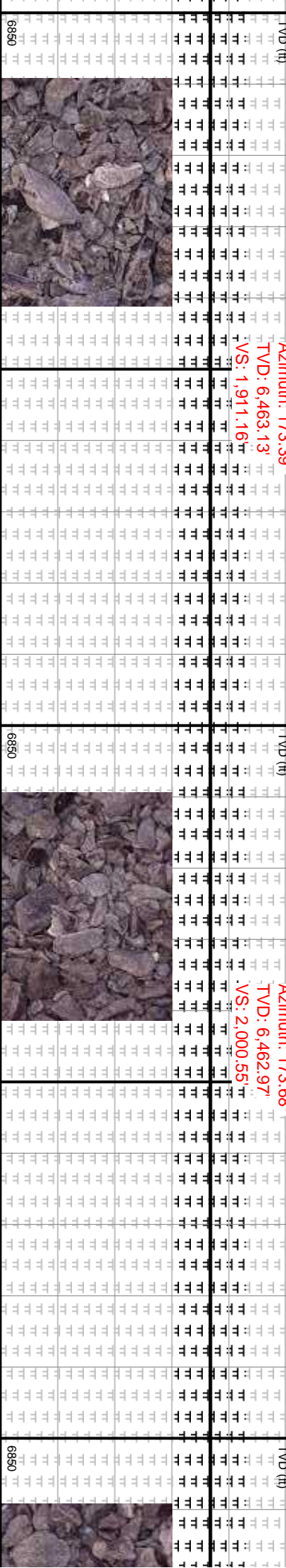
MD: 8,046'

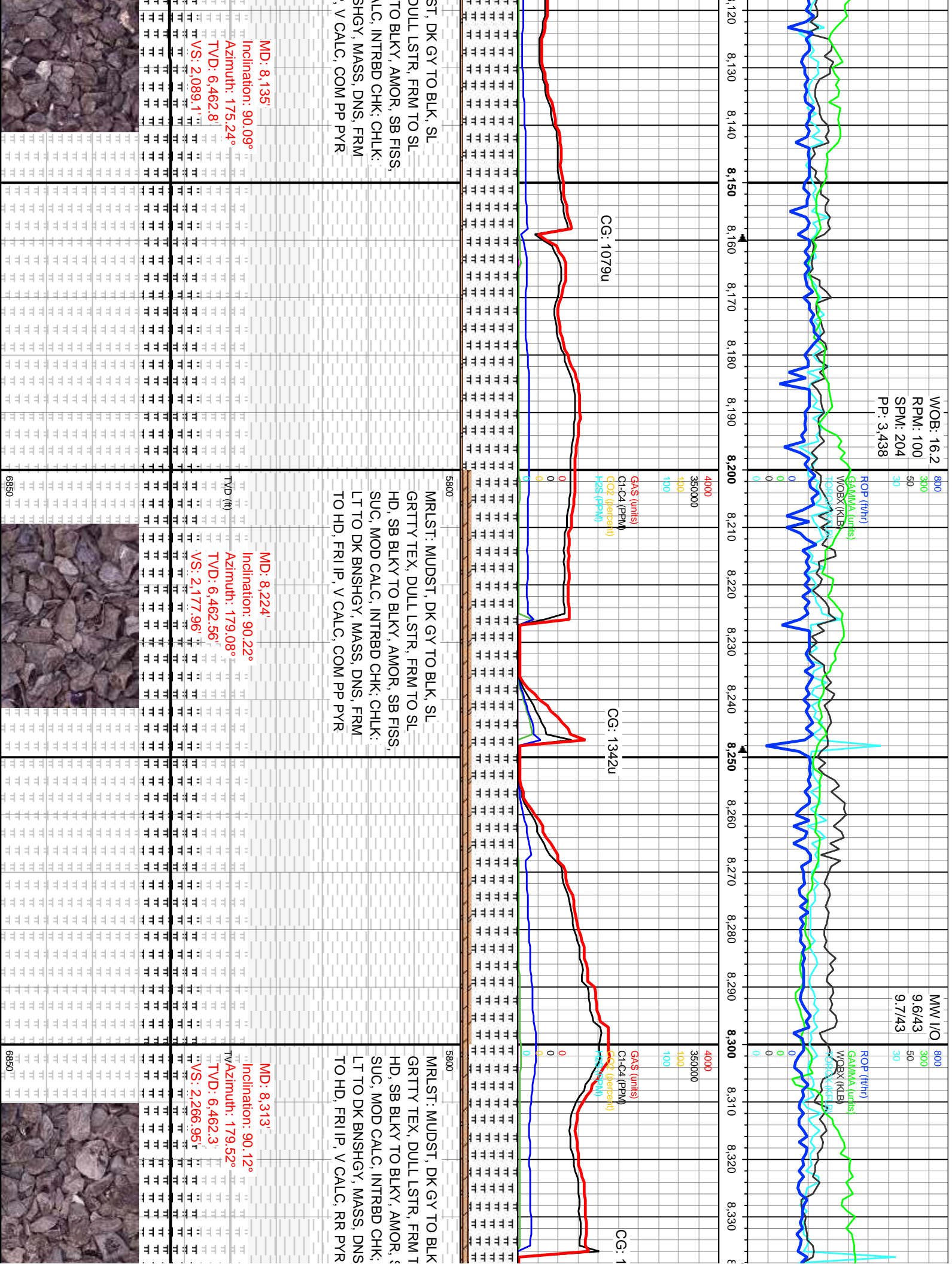
Inclination: 90.12°

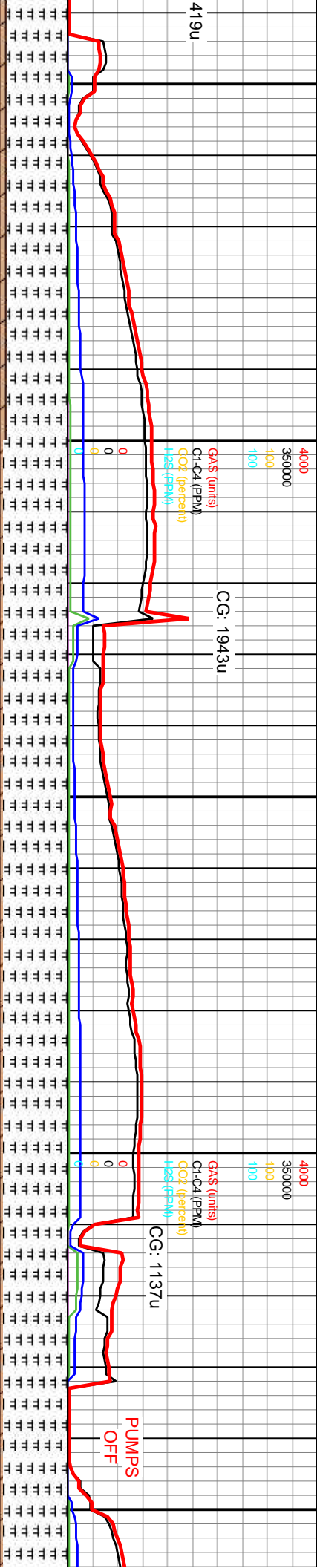
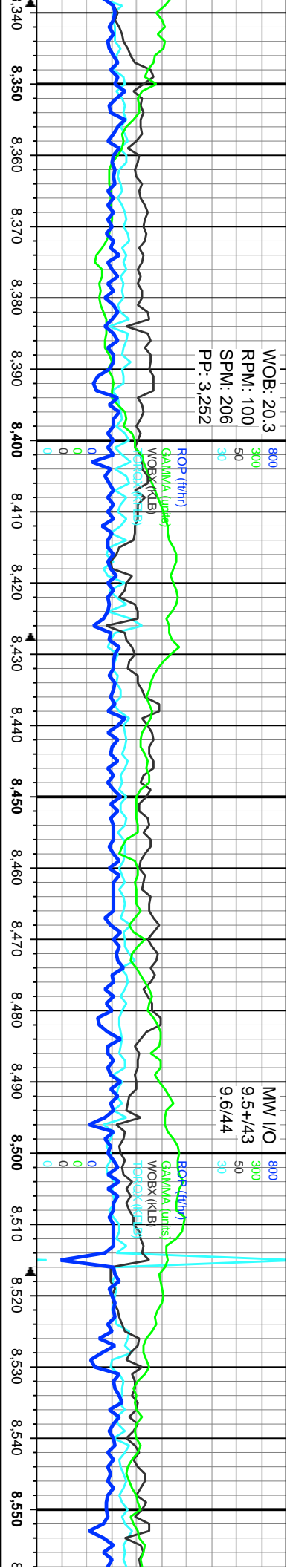
Azimuth: 173.68°

TVD (ft): 6,462.97'

VS: 2,000.55'



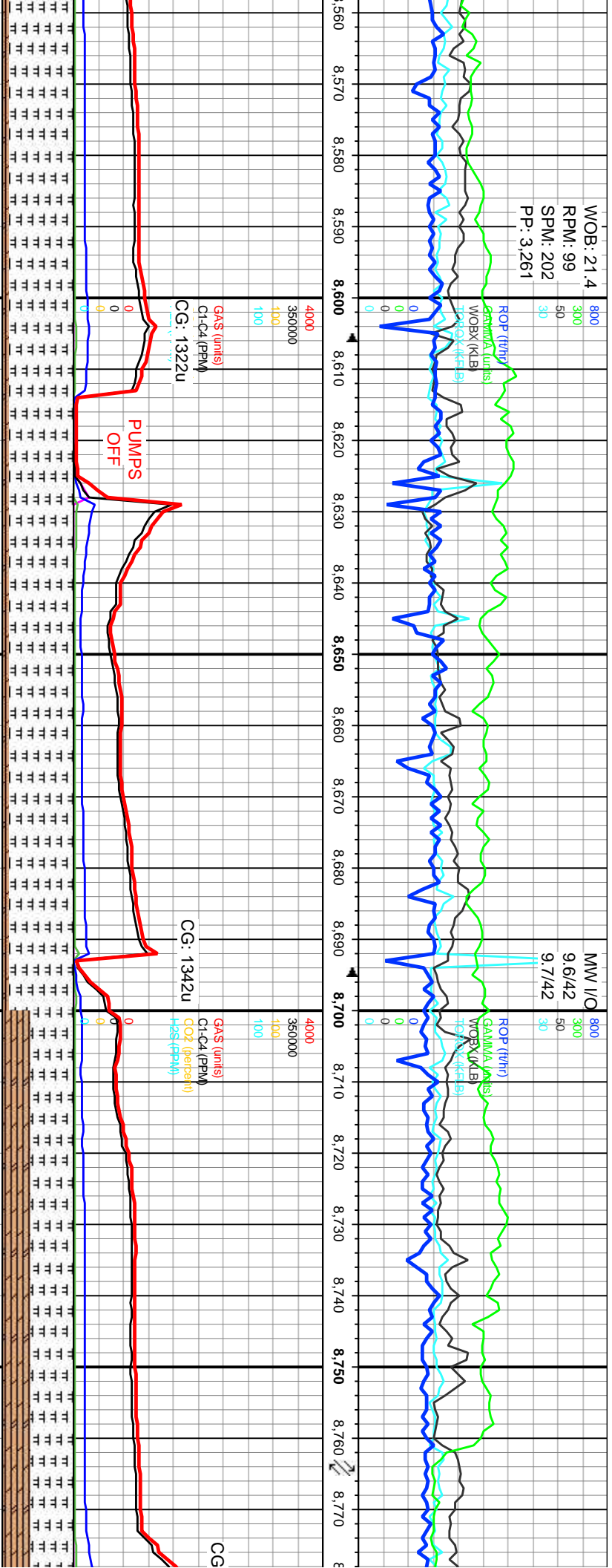


[illegible]



WOB: 21.4  
RPM: 99  
SPM: 202  
PP: 3.261

MW I/O  
9.6/42  
9.7/42



5800  
MRLST: MUDST, DK GY TO BLK, SL  
GRITTY TEX. DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK: CHLK:  
LT TO DK BNSHG, MASS, DNS, FRM  
TO HD, FRI IP, V CALC, TR PP PYR, OCC  
FREE CHK

5800  
MRLST: MUDST, DK GY TO BLK, SL  
GRITTY TEX. DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK: CHLK:  
LT TO DK BNSHG, MASS, DNS, FRM  
TO HD, FRI IP, V CALC, TR PP PYR, OCC  
FREE CHK

MD: 8.581'

Inclination: 91.48°

Azimuth: 179.58°

TVD: 6,457.71'

VS: 2,534.89'

MD: 8.670'

Inclination: 91.51°

Azimuth: 179.33°

TVD: 6,455.39'

VS: 2,623.85'

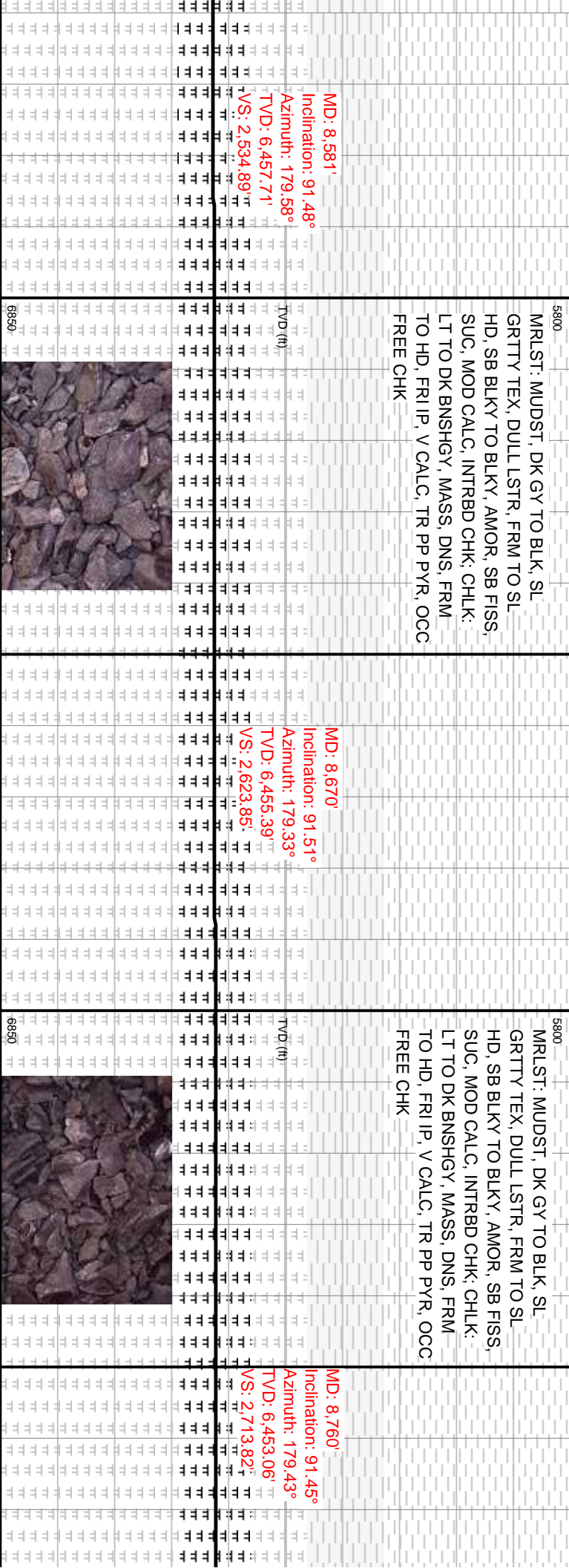
MD: 8.760'

Inclination: 91.45°

Azimuth: 179.43°

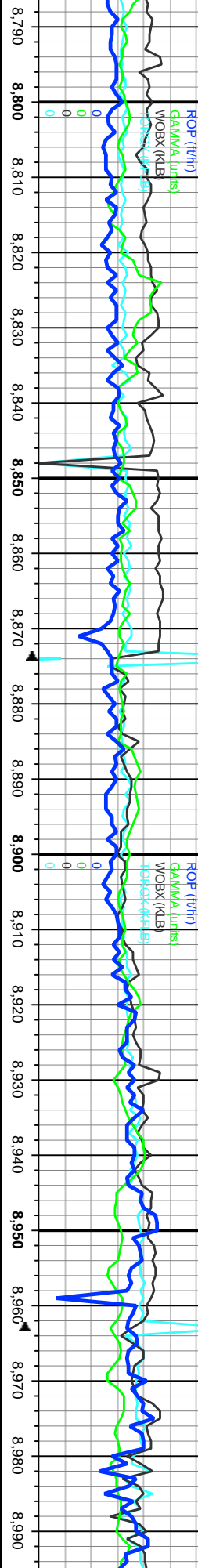
TVD: 6,453.06'

VS: 2,713.82'





WOB: 23.5  
RPM: 99  
SPM: 206  
PP: 3.259



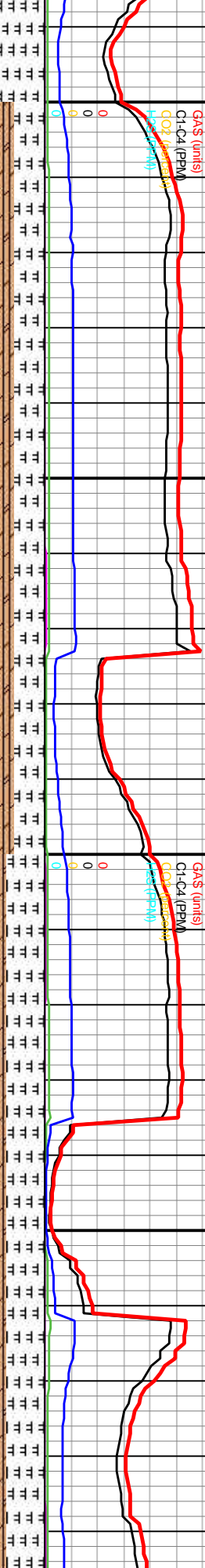
MW I/O  
9.5+/42  
9.6/42

WOB: 18  
RPM: 100  
SPM: 202  
PP: 3.454

: 1712u

CG: 2386u

CG: 2157u



MRSLT: MUDST, DK GY TO BLK, SL  
GRITTY TEX, DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK: CHLK:  
LT TO DK BNSHGY, MASS, DNS, FRM  
TO HD, FRI I/P, V CALC, TR PP PYR, OCC  
FREE CHK

MRSLT: MUDST, GY TO DK GY, SL  
GRITTY TEX, DULL LSTR, FRM TO SL  
HD, SB BLKY TO BLKY, AMOR, SB FISS,  
SUC, MOD CALC, INTRBD CHK: CHLK:  
LT GY TO BNSHGY, MASS, DNS, FRI, V  
CALC, OCC FREE CHK

MD: 8,849'  
Inclination: 91.63°  
Azimuth: 178.98°  
TVD: 6,450.67'  
VS: 2,802.77'

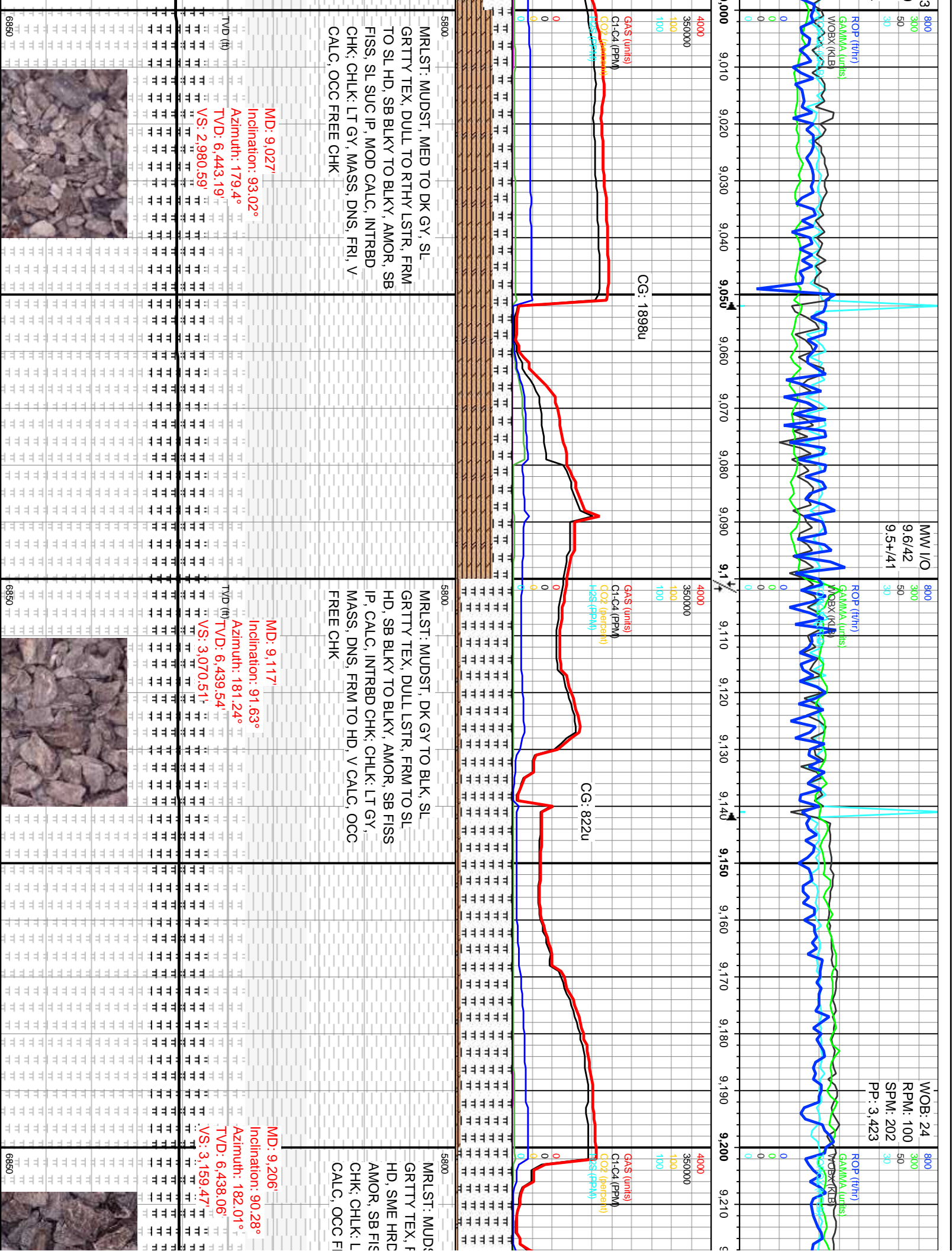
MD: 8,938'  
Inclination: 92.49°  
Azimuth: 179.73°  
TVD: 6,447.47'  
VS: 2,891.7'

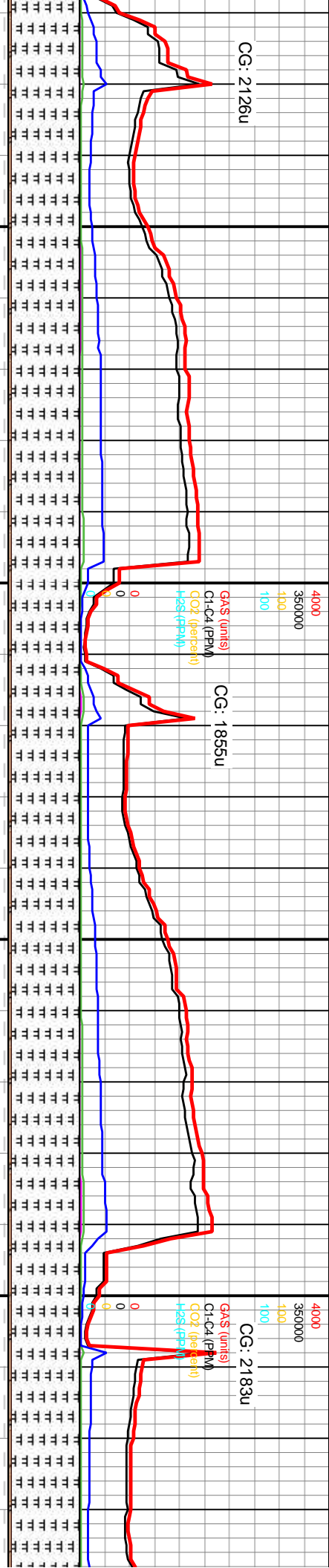
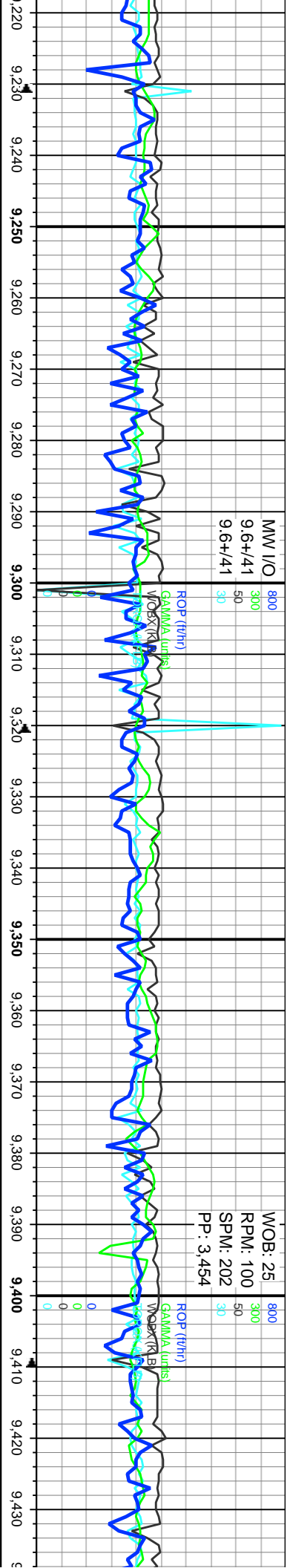


6850

6850

MM



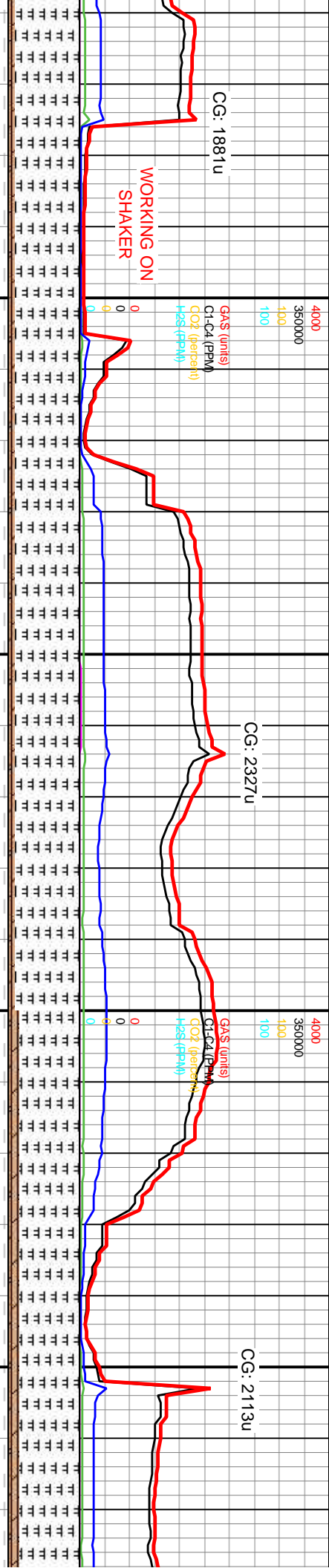
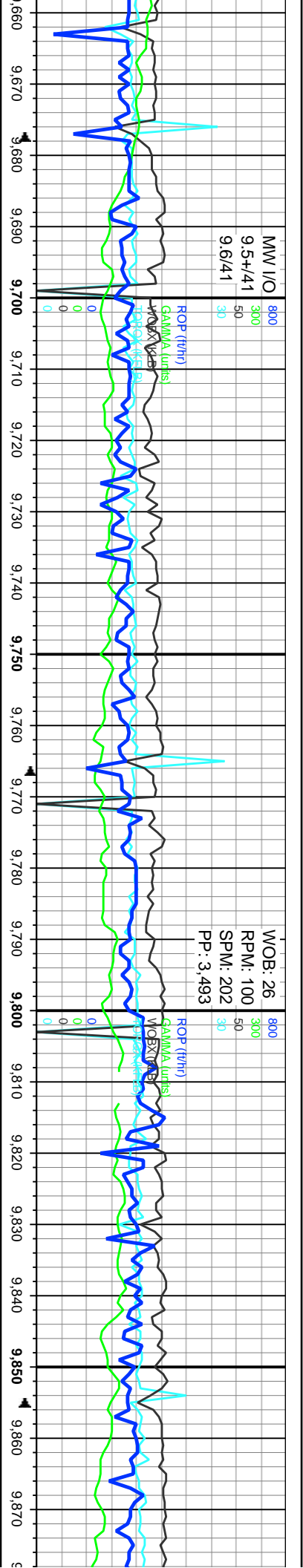






ST, DK GY TO BLK, SL RTHY LSTR, FRM TO SL IP, SB BLKY TO BLKY IP, SS IP, CALC, TR INTRBD T GY, MASS, DNS, FRM, V REE CHK		MRLST: MUDST, DK GY TO BLK, SL GRITTY TEX, DULL LSTR, SL HD TO HD, SB BLKY TO BLKY, AMOR, SB FISS, CALC, TR INTRBD CHK: CHLK: LT GY, MASS, DNS, FRM, V CALC, OCC FREE CHK		MRLST: MUDST, DK GY TO BLK SL GRITTY TEX, DULL TO RTHY SL HD, SB BLKY TO BLKY, AMC FISS, CALC, INTRBD CHK: CHLK TO BNSHY, MASS, DNS, SFT V CALC, OCC FREE CHK	
MD: 9,295' Inclination: 90.18° Azimuth: 183.87° TVD: 6,437.7' VS: 3,248.36'		MD: 9,384' Inclination: 90.22° Azimuth: 185.56° TVD: 6,437.39' VS: 3,337.08'			
6850'		6850'		6850'	







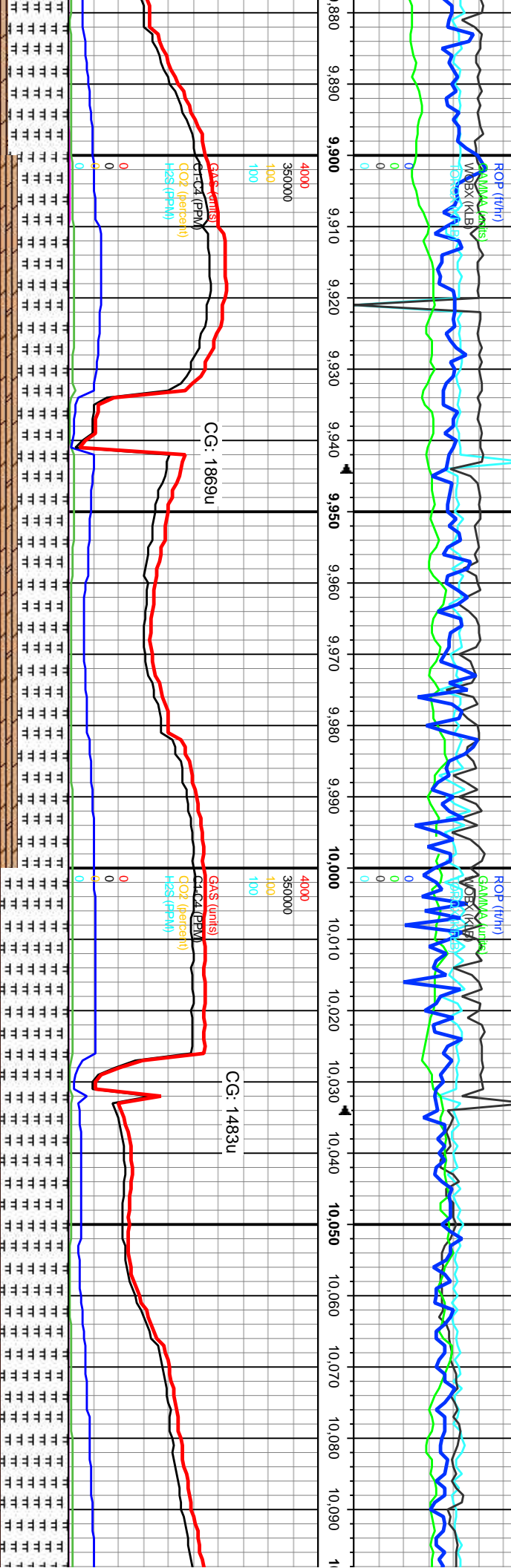


54°		5800		5800		5800	
MD: 9.742'		Inclination: 89.63°		MD: 9.832'		Inclination: 89.85°	
Azimuth: 178.35°		TVD: 6.438.57'		Azimuth: 177.76°		TVD: 6.438.88'	
VS: 3.694.76'		VS: 3.784.69'		VS: 3.784.69'		VS: 3.784.69'	
MRSLT: MUDST, DK GY TO BLK, SL		MRSLT: MUDST, DK GY TO BLK, SL		MRSLT: MUDST, DK GY TO BLK, SL		MRSLT: MUDST, DK GY TO BLK, SL	
GRITTY TEX, DULL LSTR, FRM TO SL HD,		GRITTY TEX, DULL LSTR, FRM TO SL HD,		GRITTY TEX, DULL LSTR, FRM TO SL HD,		GRITTY TEX, DULL LSTR, FRM TO SL HD,	
SB BLKY TO BLKY, AMOR, SB FISS, CALC		SB BLKY TO BLKY, AMOR, SB FISS, CALC		SB BLKY TO BLKY, AMOR, SB FISS, CALC		SB BLKY TO BLKY, AMOR, SB FISS, CALC	
TR INTRBD CHK: CHLK: LT GY TO		TR INTRBD CHK: CHLK: LT GY TO		TR INTRBD CHK: CHLK: LT GY TO		TR INTRBD CHK: CHLK: LT GY TO	
BNSHGY IP, MASS, DNS, FRM, V CALC		BNSHGY IP, MASS, DNS, FRM, V CALC		BNSHGY IP, MASS, DNS, FRM, V CALC		BNSHGY IP, MASS, DNS, FRM, V CALC	
6850		6850		6850		6850	
							

NW I/O  
9.6/41  
9.6/41

WOB: 26  
RPM: 101  
SPM: 200  
PP: 3.556

8/1/2019  
@ 10.065 MD  
9.6/41



MRSLT: MUDST, DK GY TO BLK, SL  
GRITTY TEX, RTHY LSTR, FRM TO SL HD,  
SB BLKY TO BLKY, AMOR, SB FISS IP, SL  
SLTY IP, CALC, TR INTRBD CHK ; CHLK:  
LT GY, MASS, DNS, FRM, V CALC, OCC  
FREE CHK

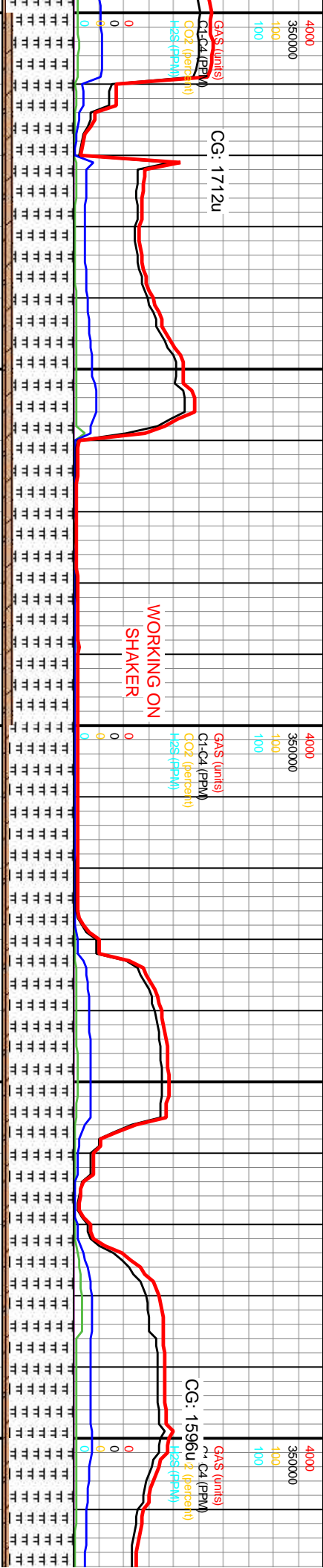
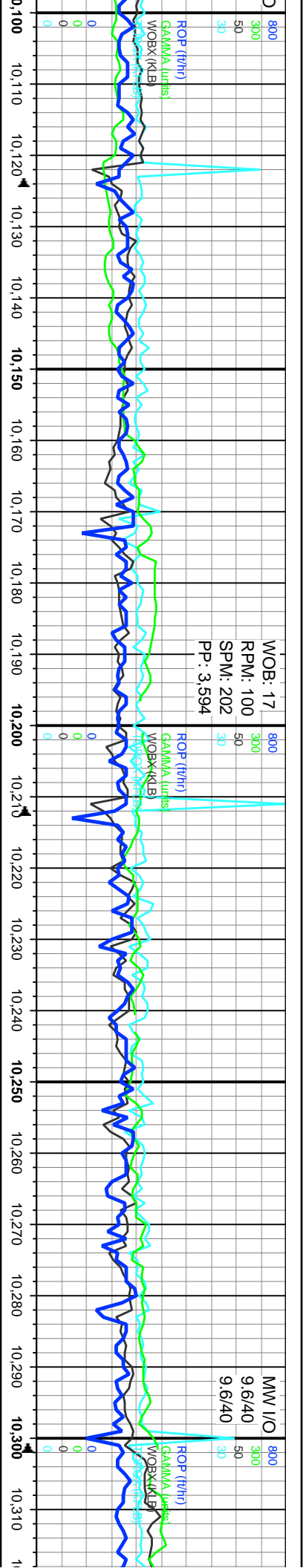
MRSLT: MUDST, DK GY TO BLK, SL  
GRITTY TEX, DULL LSTR, FRM, SL HRD  
IP, SB BLKY TO BLKY, AMOR, SB FISS,  
CALC, TR INTRBD CHK IP, TR F PP PYR,  
CHLK: LT GY, MASS, DNS, FRM, V CALC

MD: 9.921'  
Inclination: 90.12°  
Azimuth: 177.4°  
TVD: 6.438.72'  
VS: 3.873.6'

MD: 10.010'  
Inclination: 90.22°  
Azimuth: 176.44°  
TVD: 6.438.67'  
VS: 3.962.38'

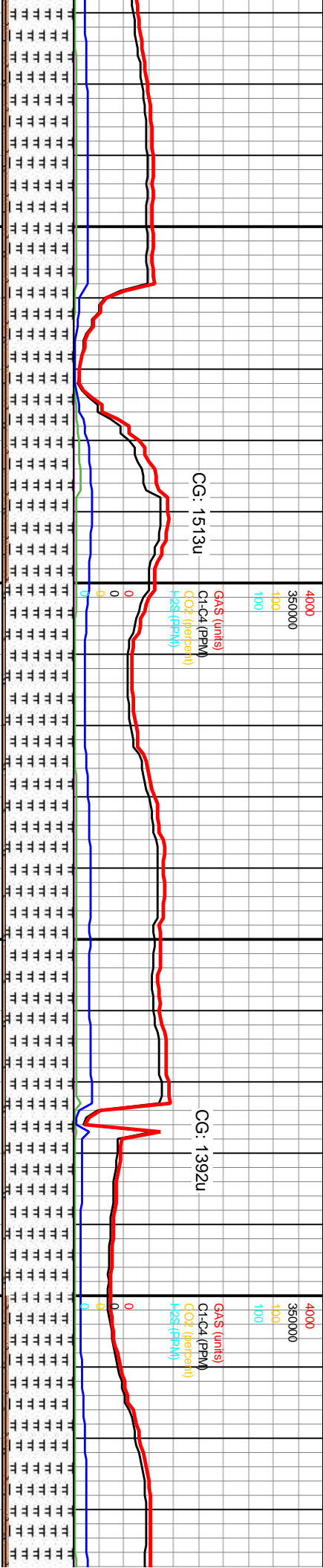
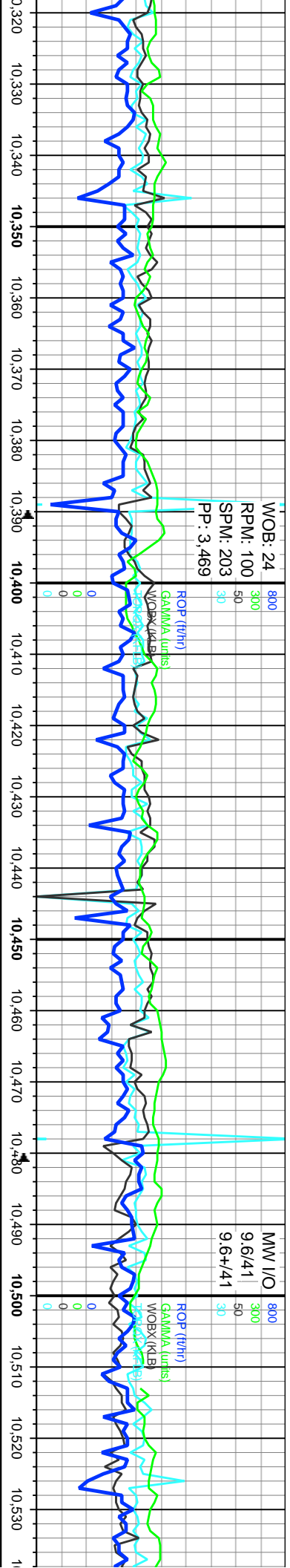
MD: 10.010'  
Inclination: 90.22°  
Azimuth: 176.44°  
TVD: 6.438.67'  
VS: 3.962.38'





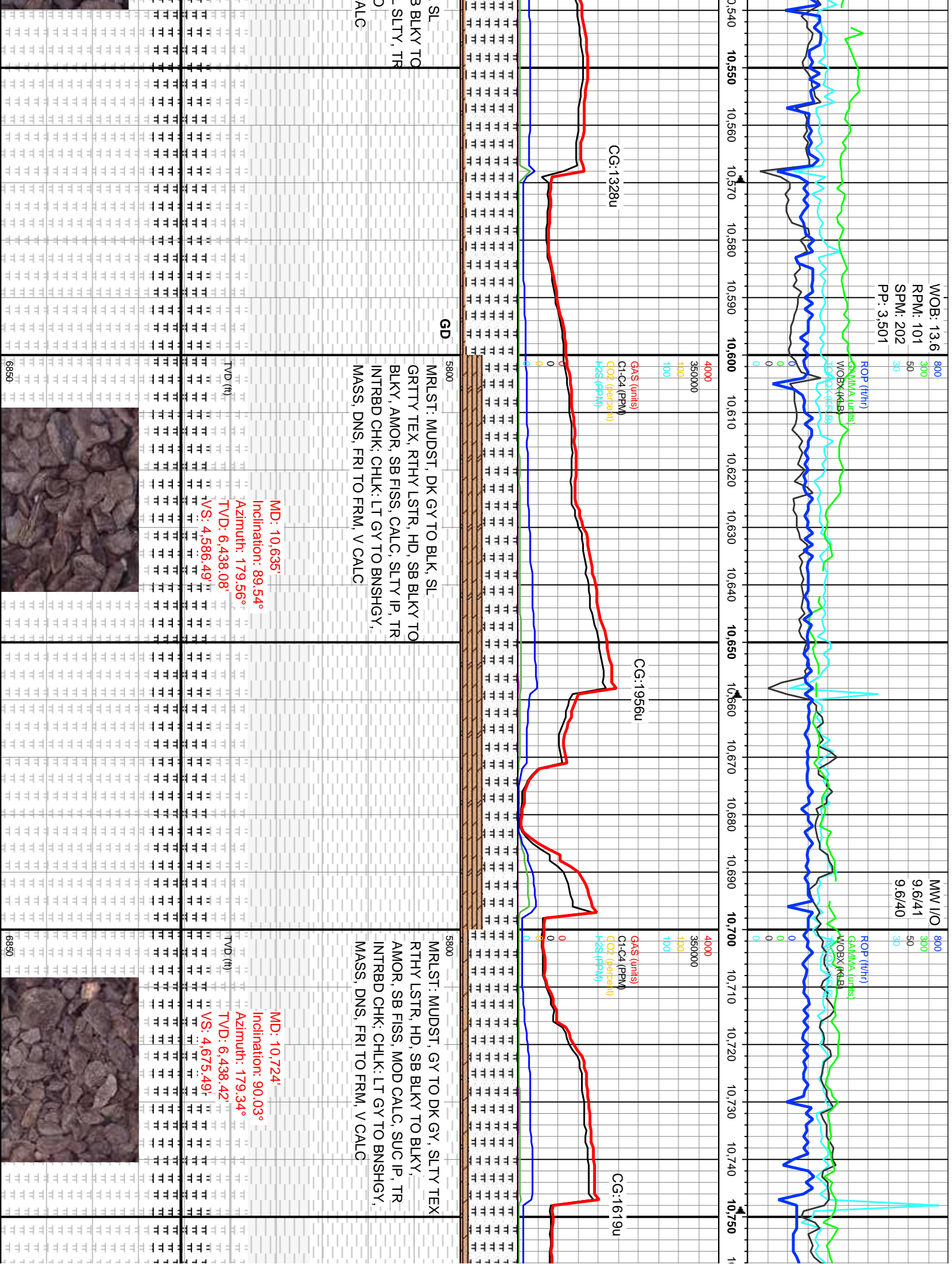
5800		5800		5800	
MRLST: MUDST, DK GY TO BLK, SL		MRLST: MUDST, DK GY TO BLK, SL		MRLST: MUDST, DK GY TO BLK, SL	
GRITTY TEX, RTHYLSTR, FRM TO SL HD,		GRITTY TEX, DULL TO RTHYLSTR, FRM,		GRITTY TEX, D	
SB BLKY TO BLKY, AMOR, SB FISS,		SB BLKY TO BLKY, AMOR, SB FISS, CALC,		TO BLKY, AMC	
CALC, SL SLTY, TR INTRBD CHK IP, TR F		SL SLTY IP, TR INTRBD CHK IP, TR F		SLTY, TR INTR	
DISSM PYR: CHLK: LT TO MED GY, MASS,		DISSM PYR: CHLK: LT GY, MASS, DNS,		MASS, DNS, F	
DNS, FRM, V CALC		FRM, V CALC			
99'		MD: 10,188'		MD: 10,277'	
Inclination: 90.22°		Inclination: 90.12°		Inclination: 90.22°	
Azimuth: 176.04°		Azimuth: 177.21°			
TVD: 6,438.07'		TVD: 6,437.8'		TVD (ft)	
VS: 4,139.84'		VS: 4,228.67'			
1.12'					
38.33 (ft)					
775.25°					
6850		6850		6850	



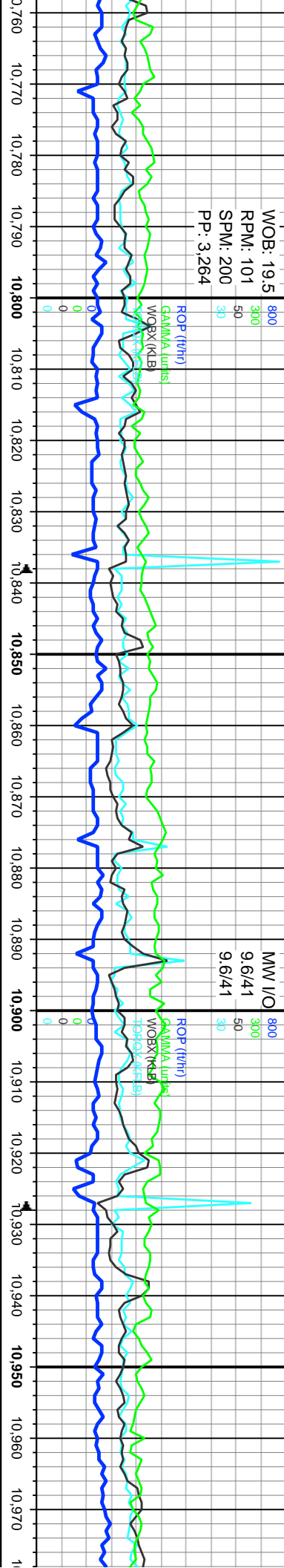


T, DK GY TO BLK, SL ULL LSTR, FRM, SB BLKY R, SB FISS IP, CALC, SL BD CHK; CHLK: LT GY, RM TO SL HD, V CALC	MD: 10,367' Inclination: 90.18° Azimuth: 177.73° TVD: 6,437.49' VS: 4,318.56'		5800	MR1ST: MUDST, DK GY TO BLK, SL GRITTY TEX, RTHY LSTR, SL HD TO HD, SB BLKY TO BLKY, AMOR, SB FISS TO FISS IP, CALC, SL SLTY, TR INTRBD CHK; TR CHK	6850	
	TVD (ft)	TVD (ft)				
	MD: 10,456' Inclination: 90.03° Azimuth: 178.76° TVD: 6,437.41' VS: 4,407.53'		5800	MR1ST: MUDST, DK GY TO BLK GRITTY TEX, RTHY LSTR, HD, SI BLKY, AMOR, SB FISS, CALC, SI INTRBD CHK IP; CHLK: LT GY TO BNSHG, MASS, DNS, FRM, V C	6850	
	TVD (ft)	TVD (ft)				

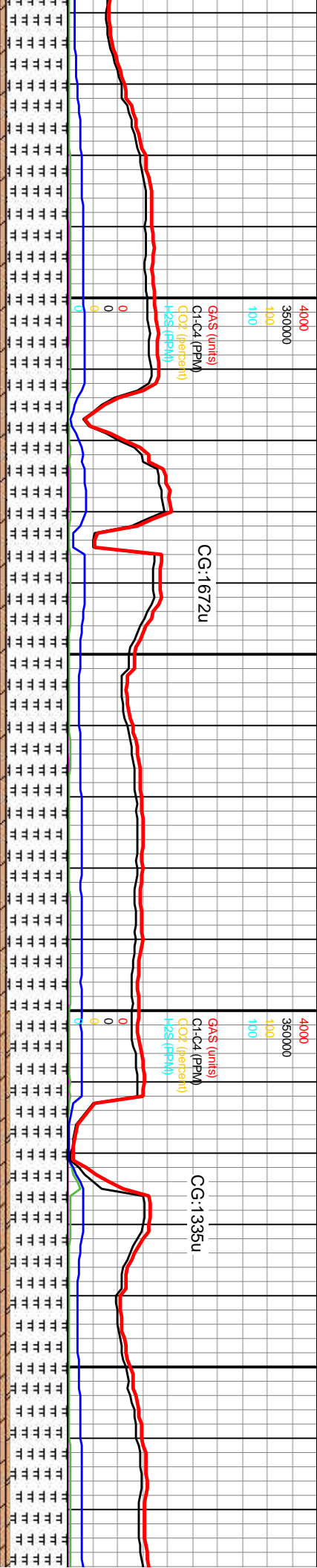




WOB: 19.5  
RPM: 101  
SPM: 200  
PP: 3.264



MW I/O  
9.6/41  
9.6/41



CG:1672u

CG:1335u

5800  
MRLST: MUDST, GY TO DK GY, SLTY TEX,  
RTHY LSTR, HD, SB BLKY TO BLKY,  
AMOR, SB FISS, MOD CALC, SUC IP, TR  
INTRBD CHK: CHLK: LT GY TO BNSHGY,  
MASS, DNS, FRI TO FRM, V CALC

5800  
MRLST: MUDST, GY TO DK GY, SLTY TEX,  
RTHY LSTR, HD, SB BLKY TO BLKY,  
AMOR, SB FISS, MOD CALC, SUC IP, TR  
INTRBD CHK: CHLK: LT GY TO BNSHGY,  
MASS, DNS, FRI TO FRM, V CALC

MD: 10,814'  
Inclination: 89.72°  
Azimuth: 179.83°  
TVD: 6,438.55'  
VS: 4,765.31'

MD: 10,903'  
Inclination: 89.85°  
Azimuth: 180.12°  
TVD: 6,438.89'  
VS: 4,854.31'

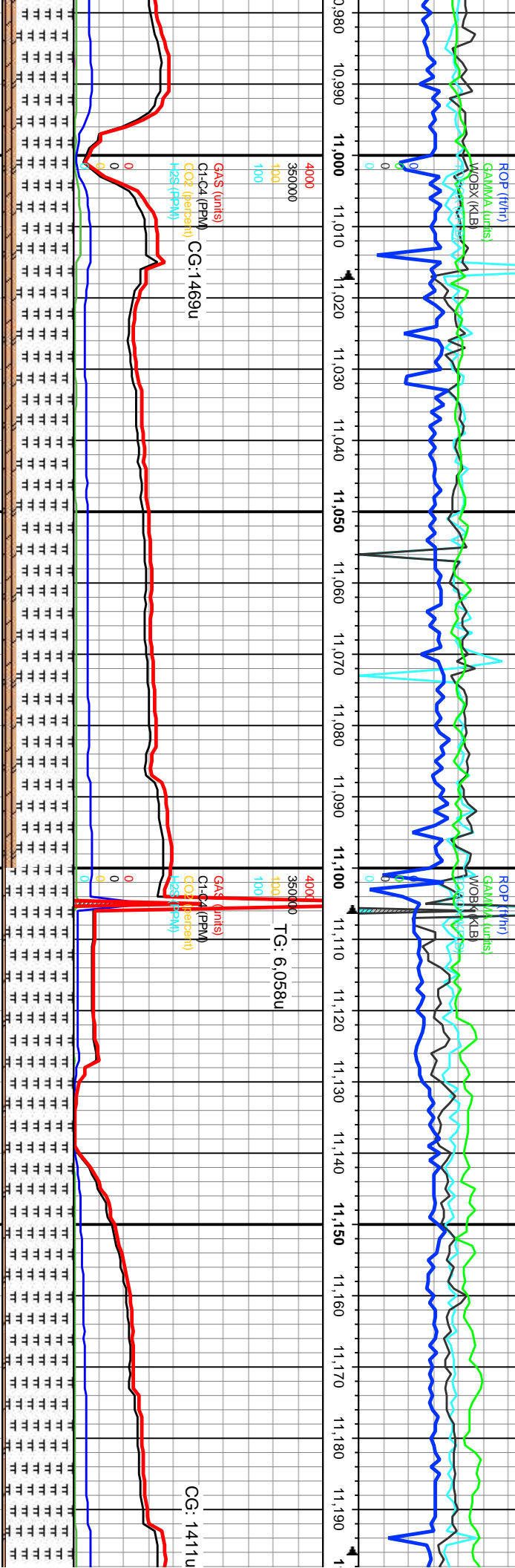


WOB: 20.5  
RPM: 100  
SPM: 200  
PP: 3.374

NW I/O  
9.9+/44  
9.9+/45

8/2/2019  
MINDEPTH  
@ 11,105 MD

WOB: 18  
RPM: 100  
SPM: 172  
PP: 2.965



GASES (units)  
C1-C4 (PPM)  
CO2 (percent)  
H2S (PPM)

TG: 6.058u

CG: 1411u

5800  
MR LST: MUDST, GY TO DK GY, SLTY TEX  
RTHY LSTR, HD, SB BLKY TO BLKY,  
AMOR, SB FISS, MOD CALC, SUC IP, TR  
INTRBD CHK, CHLK: LT GY TO BNSHGY,  
MASS, DNS, FRI TO FRM, V CALC

Bit #: 3  
Type: HCC  
Size: 8 1/2  
Depth In: 11,105'  
Depth Out: 16,525'  
Hours: 17.5 hrs  
Avg Ft/Hr: 310 /hr  
Jets: 5 X 15s  
S/N: 5288245

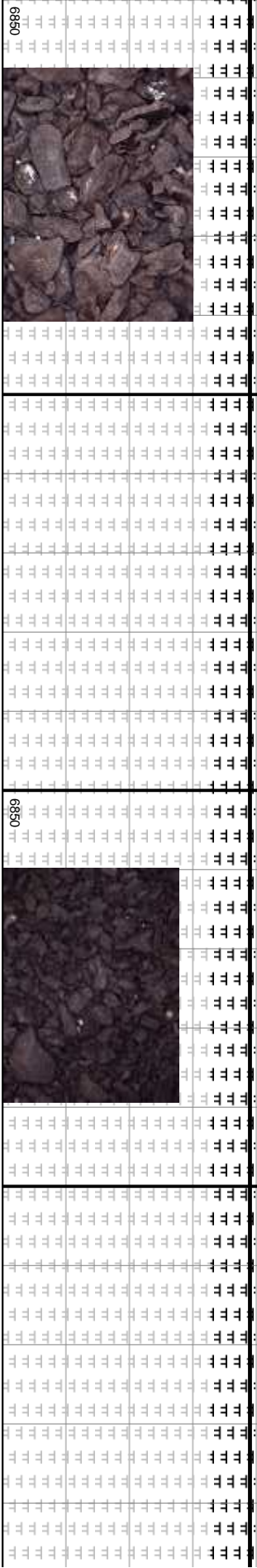
TOOH FOR MOTOR  
@ 11,105 MD  
MM

5800  
MR LST: MUDST, DK GY TO BLK, SL  
GRITTY TEX, RTHY LSTR, FRM TO SL HD,  
SB BLKY TO BLKY, AMOR, SB FISS, MOD  
CALC, CHLK: LT GY, MASS, DNS, FRI TO  
FRM, V CALC

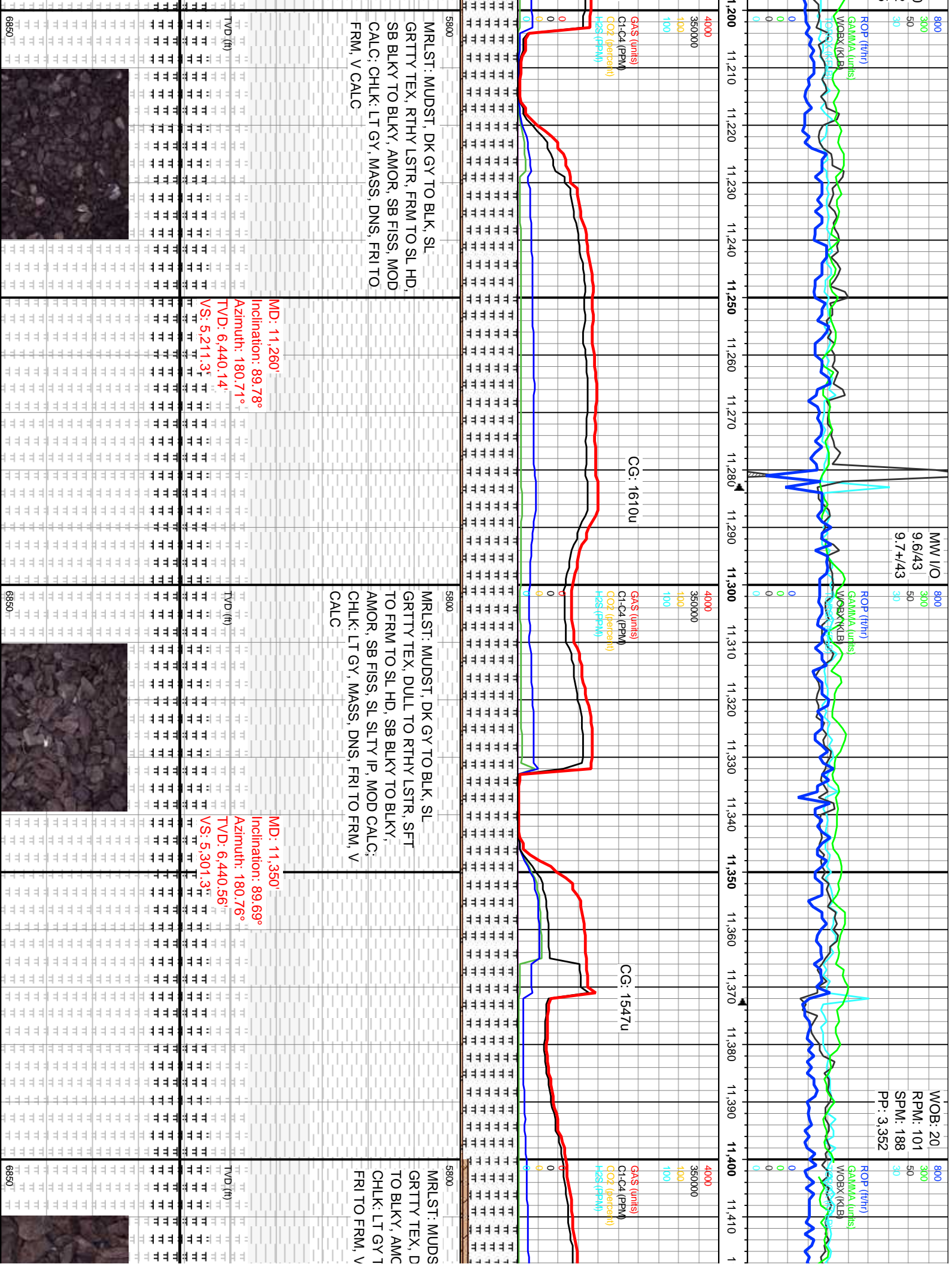
MD: 10,992'  
Inclination: 89.75°  
Azimuth: 180.22°  
TVD: 6,439.2'

MD: 11,082'  
Inclination: 89.91°  
Azimuth: 179.82°  
TVD: 6,439.47'

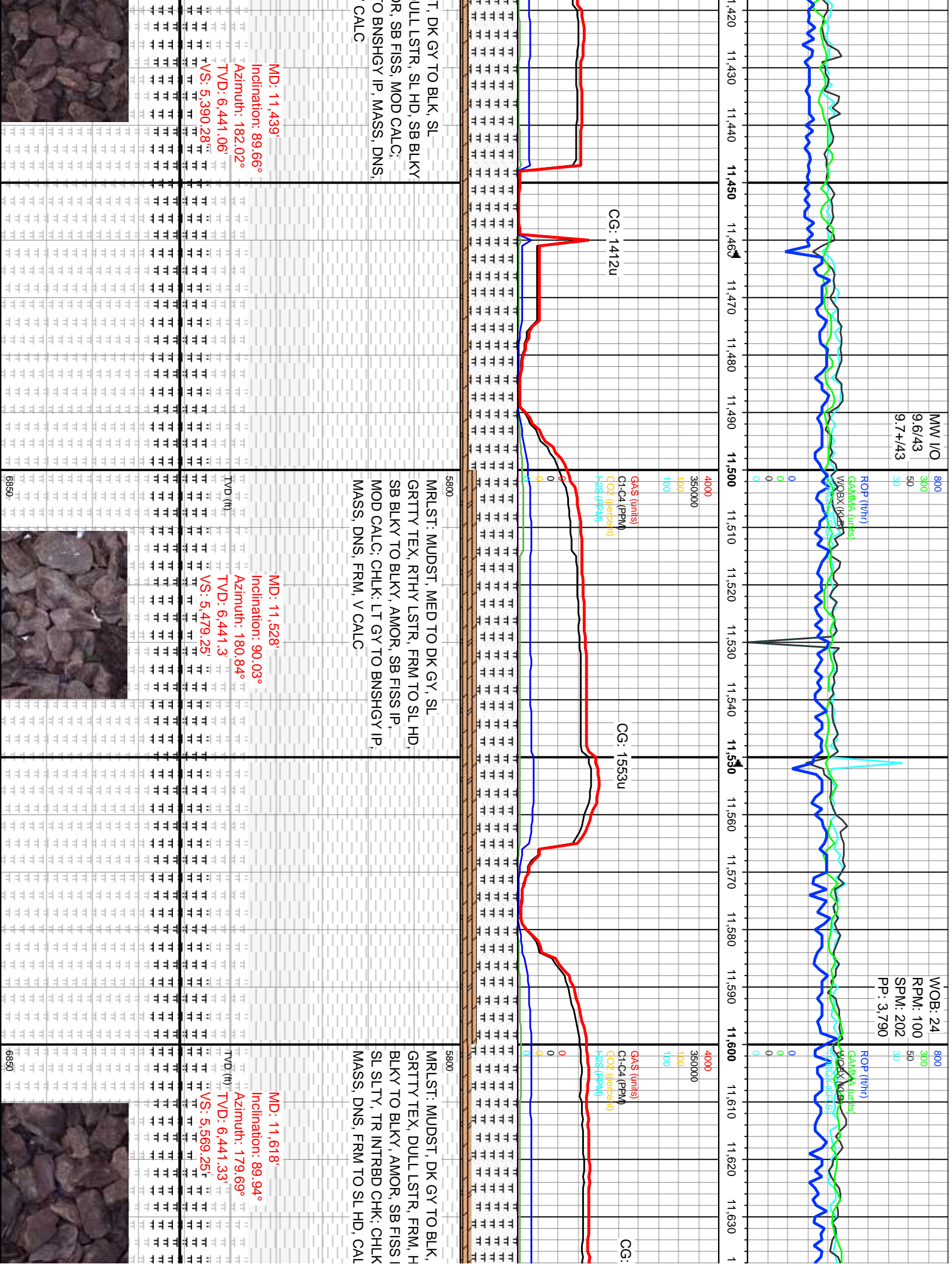
MD: 11,171'  
Inclination: 89.72°  
Azimuth: 180.2°  
TVD: 6,439.75'











MW I/O  
9.7/41  
9.7/41

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

WOB: 23  
RPM: 101  
SPM: 202  
PP: 3.854

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

CG: 1406u

GAS (units)  
C1-C4 (PPM)  
CO2 (lbperbbl)  
H2S (PPM)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

CG: 1334u

GAS (units)  
C1-C4 (PPM)  
CO2 (lbperbbl)  
H2S (PPM)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

ROP (ft/h)  
300  
50  
30

GAMMA (API)  
WOB (lb)

MD: 11,707'

Inclination: 90.03°

Azimuth: 180.03°

TVD: 6,441.35'

VS: 5,658.25'



MD: 11,796'

Inclination: 90.06°

Azimuth: 180.25°

TVD: 6,441.28'

VS: 5,747.25'



MR.LST: MUDST, DK GY TO BLK, SL  
GRITTY TEX, DULL TO RTHY LSTR, FRM  
TO SL HD, SB BLKY TO BLKY, AMOR, SB  
FISS, CALC, SL SLTY, TR INTRBD CHK;  
CHLK: LT GY TO BNSHG, MASS, DNS,  
FRM TO SL HD, CALC

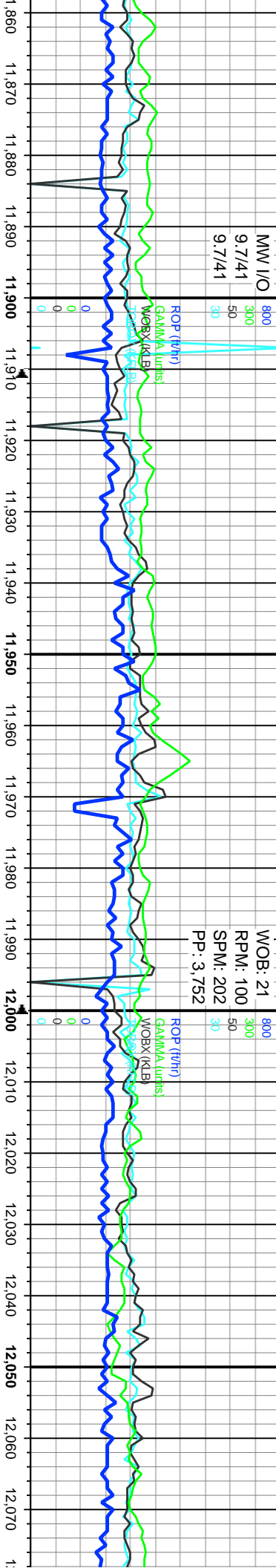
MR.LST: MUDST, DK GY TO BLK, SL GRITTY  
TEX, RTHY LSTR, FRM TO SL HD, SME HD  
IP, SB BLKY TO BLKY, AMOR, SB FISS,  
CALC, SL SLTY IP, TR INTRBD CHK;  
CHLK: LT GY TO BNSHG, MASS, DNS, SL  
HD, CALC

NW I/O  
9.7/41  
9.7/41

ROP (ft/h)  
GAMMA (units)  
WOBX (klb)  
WOB (klb)

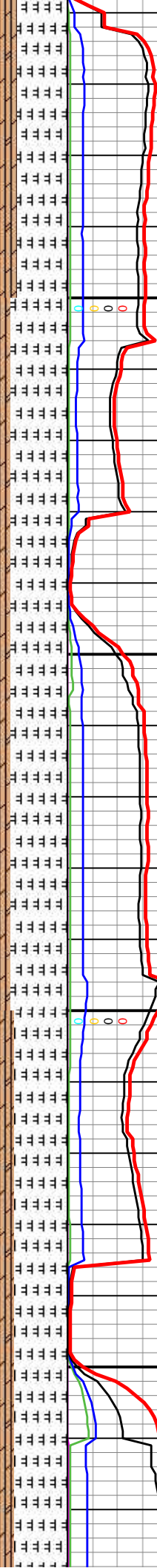
WOB: 21  
RPM: 100  
SPM: 202  
PP: 3.752

ROP (ft/h)  
GAMMA (units)  
WOBX (klb)  
WOB (klb)



GAS (units)  
CG: 1422u  
H2S (PPM)

GAS (units)  
CG: 1641u (PPM)  
CO2 (percent)  
H2S (PPM)



MD: 11,886'  
Inclination: 90.95°  
Azimuth: 180.08°  
TVD: 6,440.49'  
VS: 5.837.25'

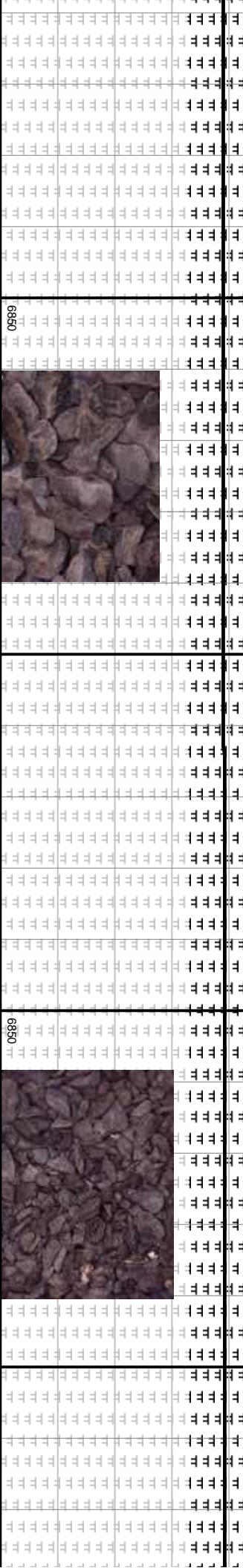
MRSLT: MUDST, DK GY TO BLK, SL GRITTY  
TEX, DULL LSTR, SL HD TO HD, SB BLKY  
TO BLKY, AMOR, SB FISS, MOD CALC, SL  
SLTY IP, TR INTRBD CHK: CHLK: LT GY  
TO BNSHGY, MASS, DNS, FRM TO SL HD,  
CALC

MD: 11,975'  
Inclination: 90.98°  
Azimuth: 178.91°  
TVD: 6,438.99'  
VS: 5.926.22'

MRSLT: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHGY, MASS, DNS, FRI TO SL HD, V  
CALC, RR FREE CHK

TVD (ft)

TVD (ft)

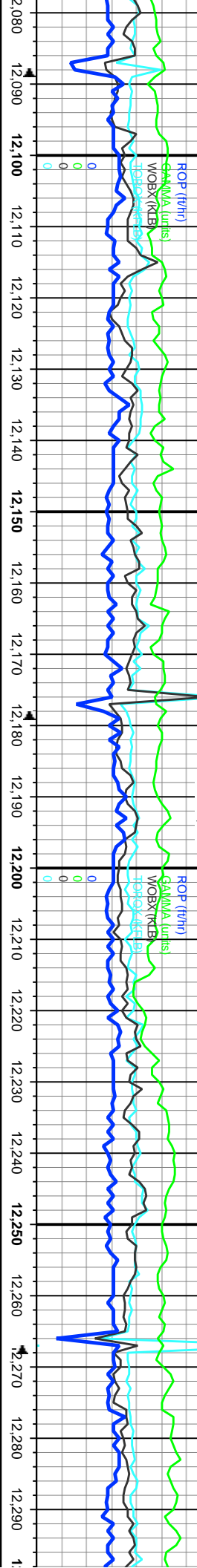




MW I/O  
9.7/41  
9.7/41

WOB: 16.7  
RPM: 100  
SPM: 202  
PP: 3.693

MW I/O  
9.6/41  
9.7/42



4000  
350000

4000  
350000

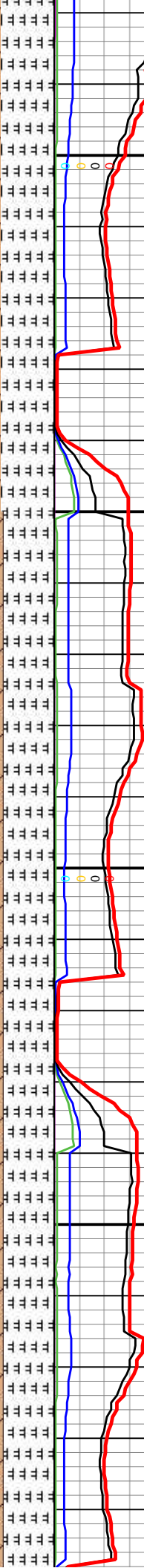
CG: 1618u

CG: 1409u

CG: 1432u

GAS (units)  
C1-C4 (PPM)  
CO2 (percent)  
H2S (PPM)

GAS (units)  
C1-C4 (PPM)  
CO2 (percent)  
H2S (PPM)



4000  
350000

4000  
350000

MRSLT: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS,  
MOD CALC, INTRBD CHK; CHLK: LT GY  
TO BNSHG, MASS, DNS, FRI TO SL HD, V  
CALC, RR FREE CHK

MRSLT: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS,  
MOD CALC, INTRBD CHK; CHLK: LT GY  
TO BNSHG, MASS, DNS, FRI TO SL HD, V  
CALC, RR FREE CHK

MD: 12,154'  
Inclination: 90.98°

MD: 12,243'  
Inclination: 90.98°

Azimuth: 179.82°

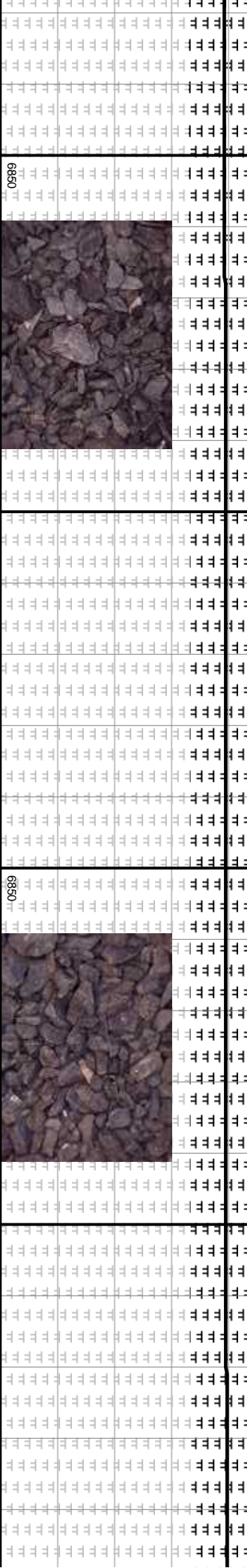
Azimuth: 179.54°

TVD: 6,435.93'

TVD: 6,434.4'

VS: 6,105.18'

VS: 6,194.17'



6850

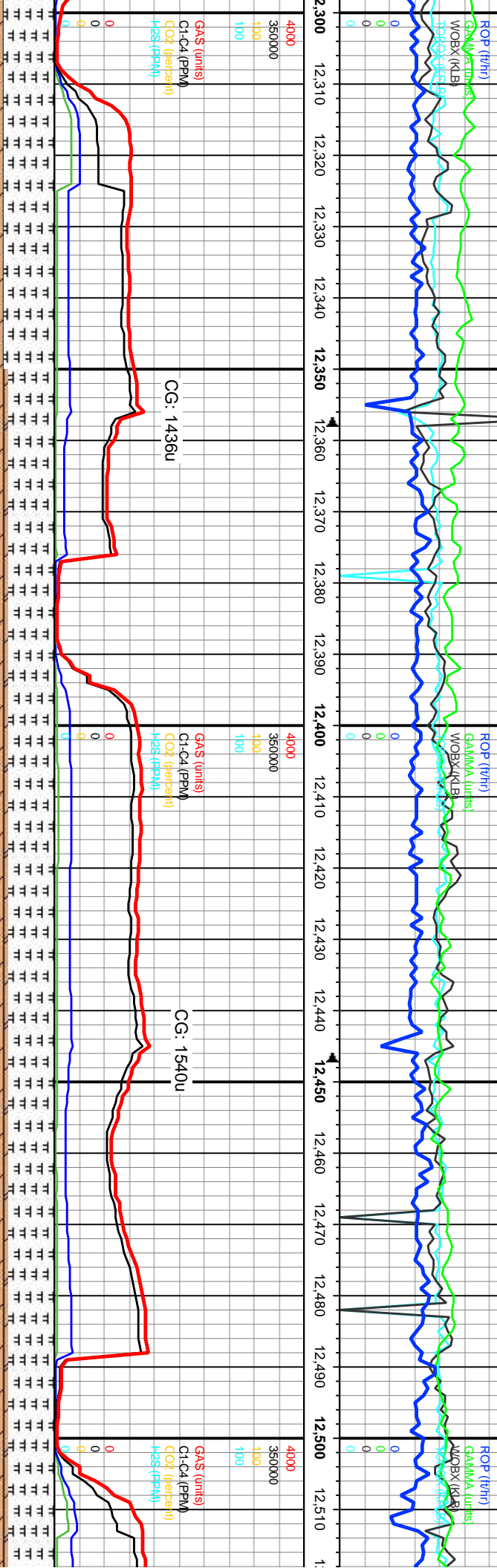
6850





WOB: 19.4  
RPM: 100  
SPM: 202  
PP: 3.788

MW I/O  
9.6/41  
9.7/41



MD: 12.333  
Inclination: 90.95°  
Azimuth: 179.54°  
TVD: 6,432.89'  
VS: 6,284.15'

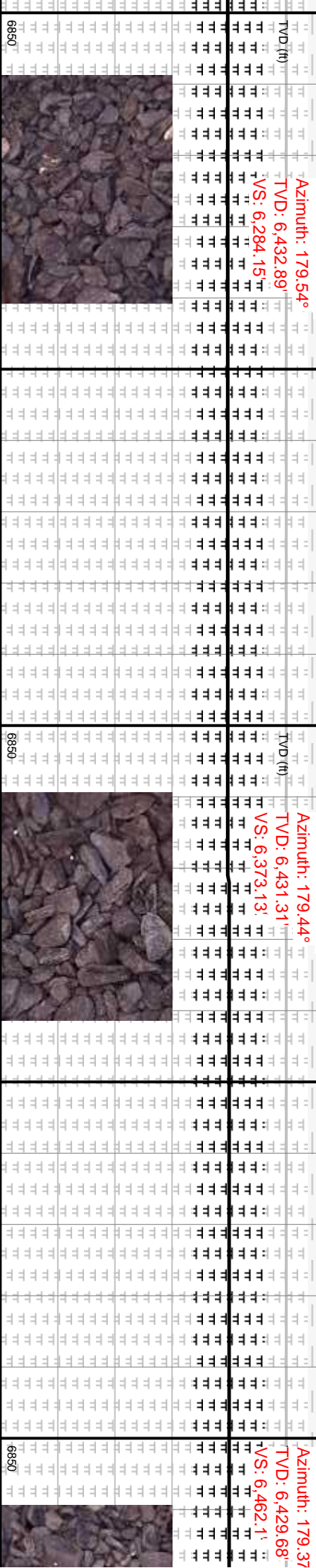
MRSLT: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK; CHLK: LT GY  
TO BNSHG, MASS, DNS, FRI TO SL HD, V  
CALC, RR FREE CHK, SUC IP

MD: 12.422  
Inclination: 91.08°  
Azimuth: 179.44°  
TVD: 6,431.31'  
VS: 6,373.13'

MRSLT: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK; CHLK: LT GY  
TO BNSHG, MASS, DNS, FRI TO SL HD, V  
CALC, RR FREE CHK, SUC IP

MD: 12.511  
Inclination: 91.0  
Azimuth: 179.37  
TVD: 6,429.68'  
VS: 6,462.1'

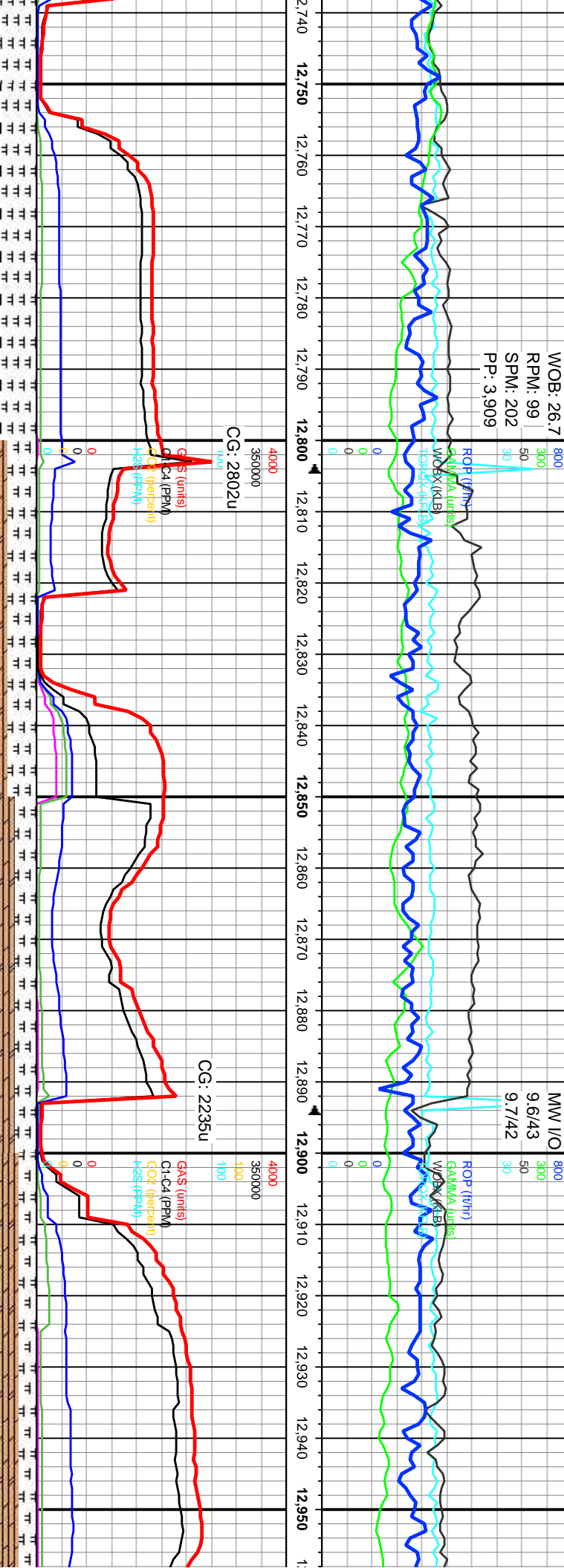
MRSLT: MUDST  
TEX, SLTY IP, F  
TO HD, SB BLK  
MOD CALC, INT  
TO BNSHG, M  
CALC, OCC FR





WOB: 26.7  
RPM: 99  
SPM: 202  
PP: 3.909

MW I/O  
9.6/43  
9.7/42



GRITTY  
TR, FRM  
R, SB FISS  
LT GY  
SL HD, V

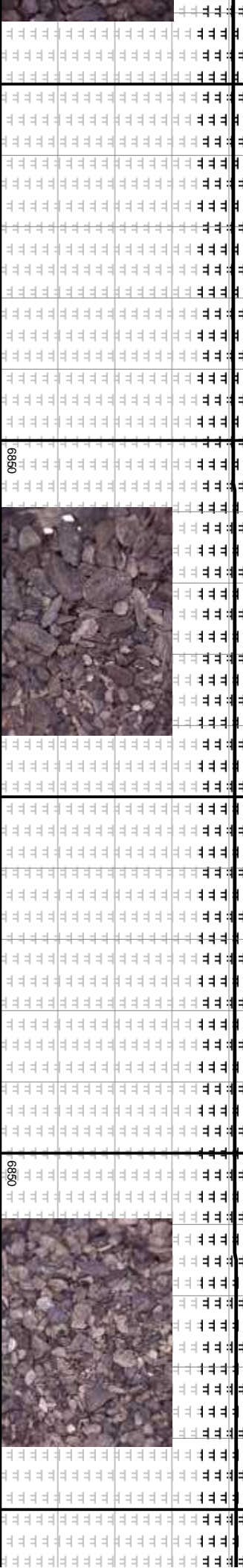
5800  
MRSLT: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHG, MASS, DNS, FRI TO SL HD, V  
CALC, ABNT FREE CHK, SUC IP

5800  
MRSLT: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHG, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

MD: 12,779'  
Inclination: 91.97°  
Azimuth: 180.21°  
TVD: 6,421.6'  
VS: 6,729.97'

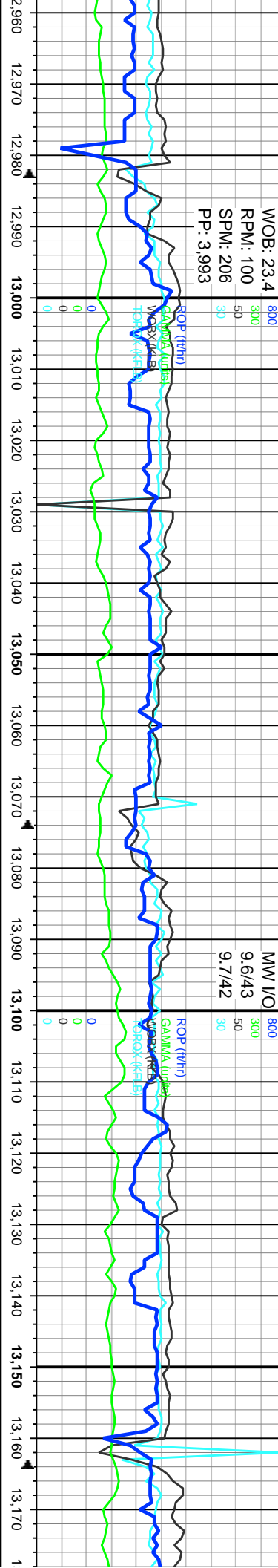
MD: 12,869'  
Inclination: 91.29°  
Azimuth: 179.92°  
TVD: 6,419.04'  
VS: 6,819.93'

MD: 12,855'  
Inclination: 91.29°  
Azimuth: 179.92°  
TVD: 6,419.04'  
VS: 6,819.93'

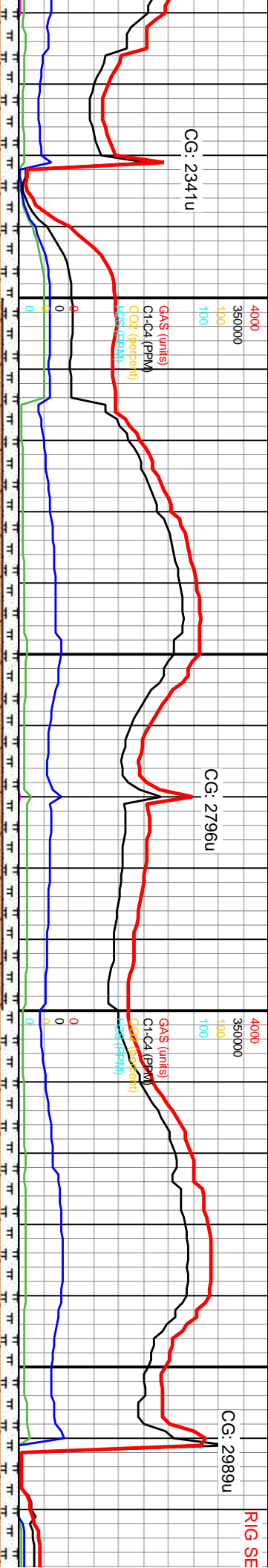




WOB: 23.4  
RPM: 100  
SPM: 206  
PP: 3.993



MW I/O  
9.6/43  
9.7/42



CG: 2341u

GAS (units)  
C1-C4 (PPM)  
CO2 (percent)  
H2S (PPM)

CG: 2796u

GAS (units)  
C1-C4 (PPM)  
CO2 (percent)  
H2S (PPM)

RIG SE

5800  
MRLST: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHG, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

MD: 13,049'

Inclination: 90.55°

Azimuth: 179.73°

TVD: 6,416.25'

V/S: 6.999.9°



5800  
MRLST: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHG, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

MD: 13,139'

Inclination: 90.06°

Azimuth: 179.96°

TVD: 6,415.77'

V/S: 7.089.9°

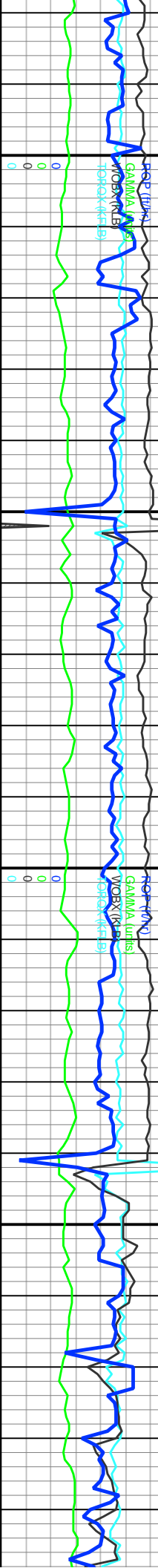




WOB: 30.5  
RPM: 100  
SPM: 202  
PP: 4.053

MW I/C  
9.6/43  
9.7/43

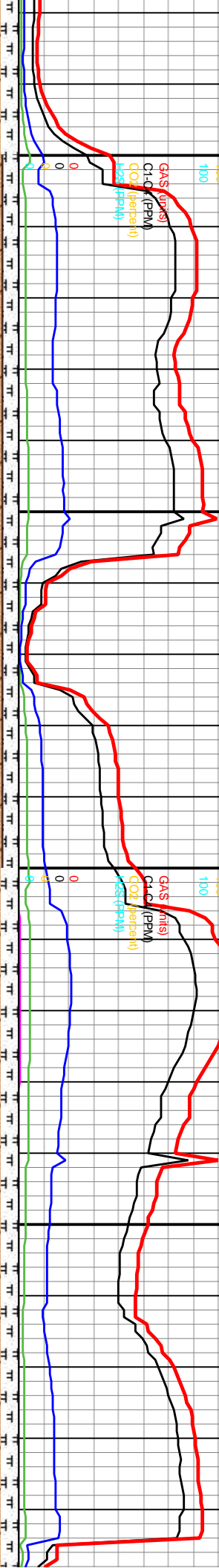
WOB: 20.1  
RPM: 100  
SPM: 204  
PP: 4.147



RVICE

CG: 3176u

CG: 3198u

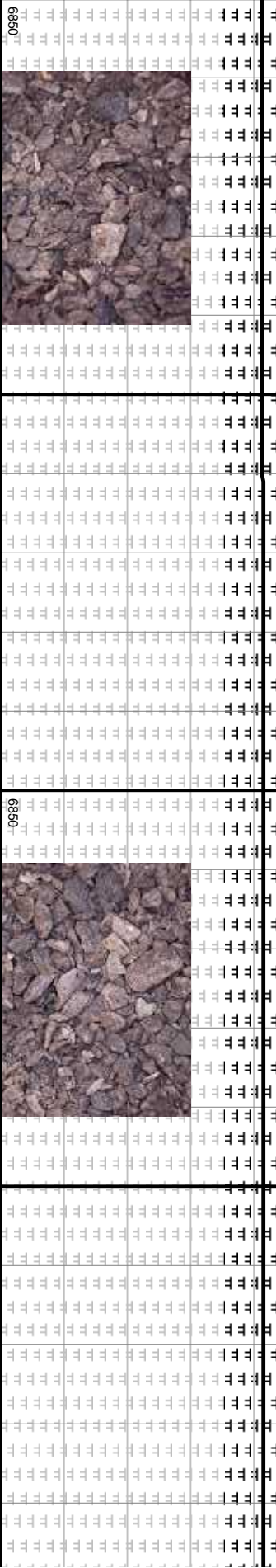


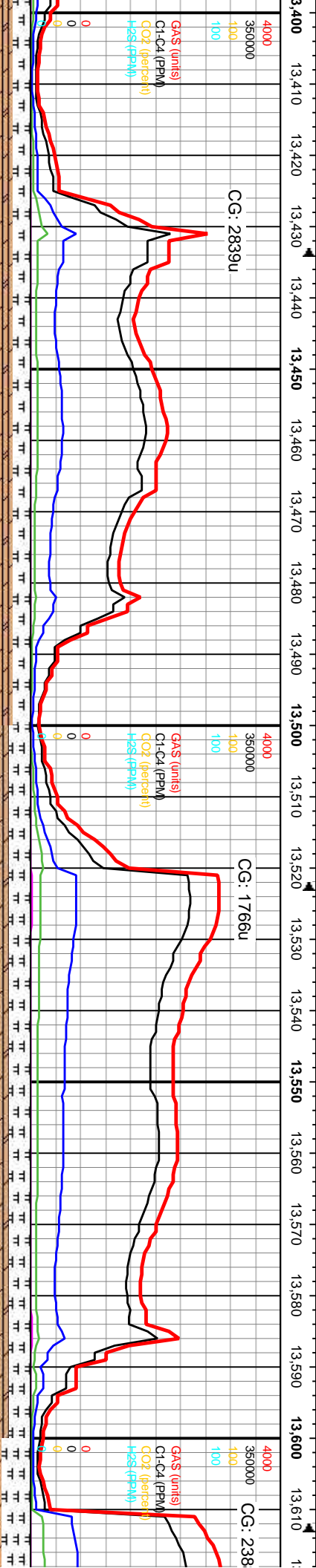
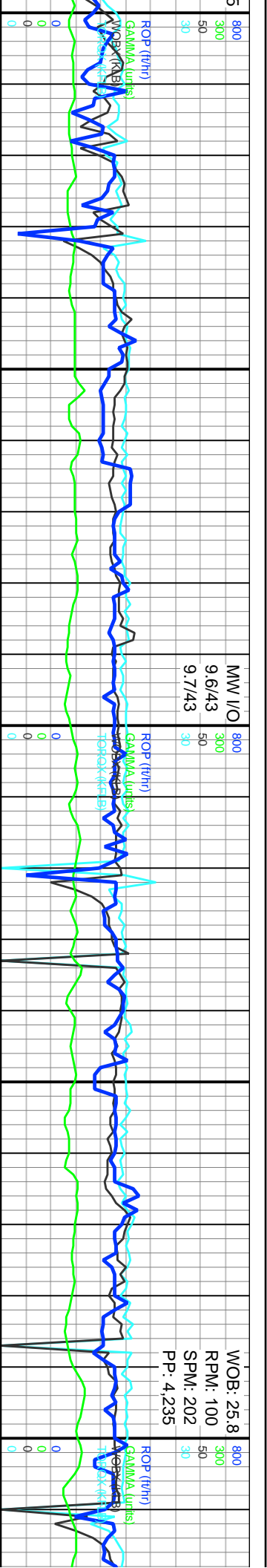
5800  
MRLST: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHG, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

5800  
MRLST: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHG, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

MD: 13,229'  
Inclination: 90.06°  
Azimuth: 179.32°  
TVD: 6,415.68'  
VS: 7,179.89'

MD: 13,319'  
Inclination: 90.37°  
Azimuth: 180.39°  
TVD: 6,415.34'  
VS: 7,269.89'

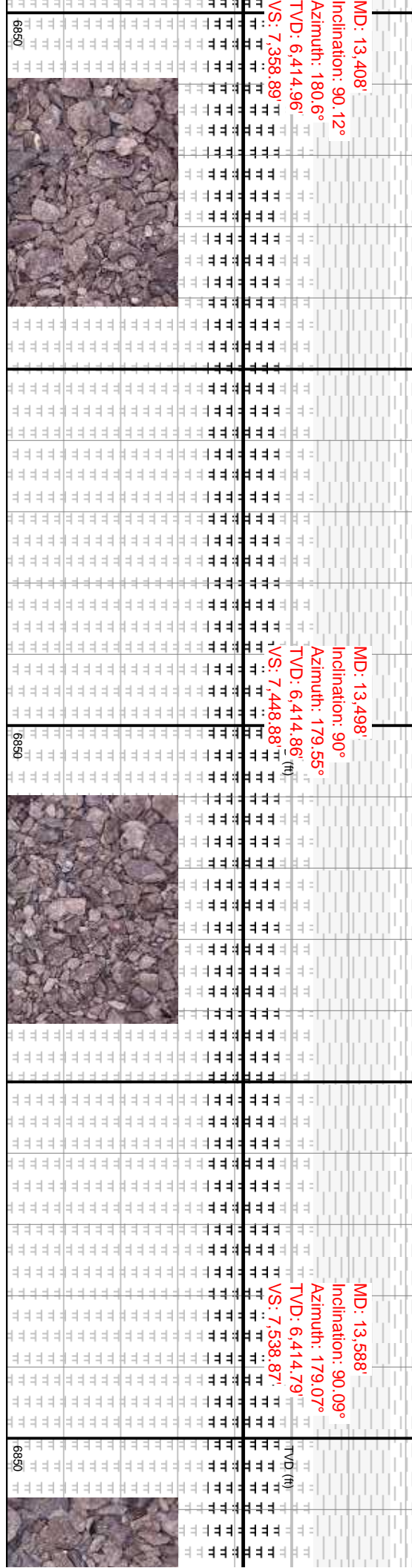




5800  
MRLST: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK; CHLK: LT GY  
TO BNSHG Y, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

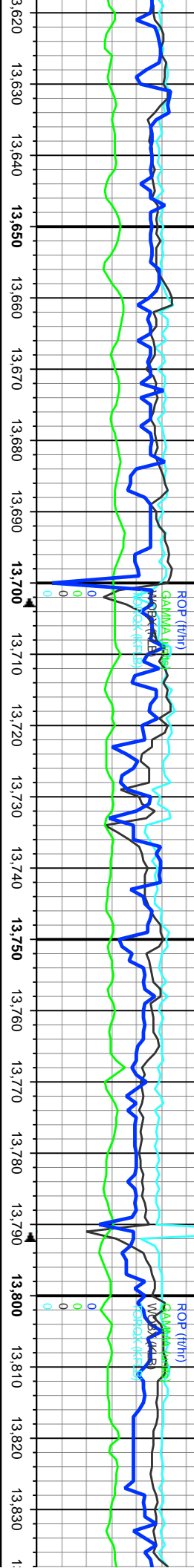
5800  
MRJST: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS,  
MOD CALC, INTRBD CHK: CHLK: LT GY  
TO BNSHG, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

5800  
MRLST: MUDDS  
TEX, SLTY IP, I  
TO HD, SB BLK  
MOD CALC, IN  
TO BNSHG, V  
SL HD, V CALC



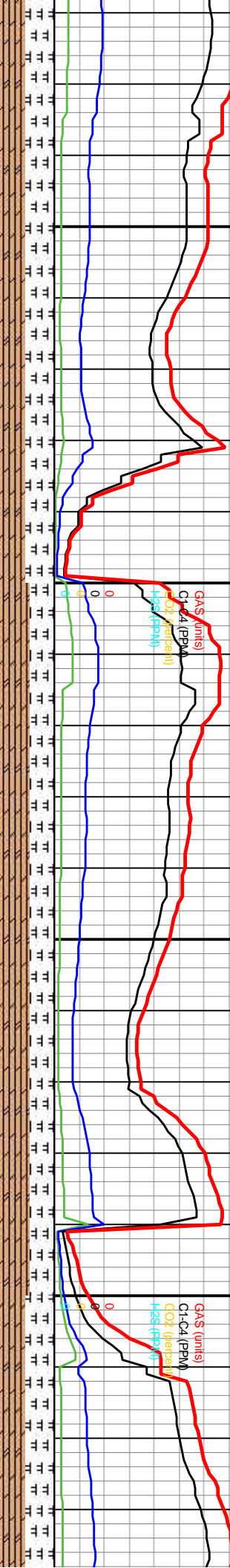
MW I/O  
9.6/44  
9.7/43

WOB: 26.6  
RPM: 100  
SPM: 202  
PP: 4.129



CG: 2751u

CG: 2686u



T. GY TO DK GY, GRITTY  
DULL TO RTHY LSTR, FRM  
YY TO BLKY, AMOR, SB FISS,  
INTRBD CHK; CHLK: LT GY  
WH IP, MASS, DNS, FRI TO  
, ABNT FREE CHK

MR LST: MUDST, GY TO DK GY, GRITTY  
TEX, SLTY IP, DULL TO RTHY LSTR, FRM  
TO HD, SB BLKY TO BLKY, AMOR, SB FISS  
MOD CALC, INTRBD CHK; CHLK: LT GY  
TO BNSHG, WH IP, MASS, DNS, FRI TO  
SL HD, V CALC, ABNT FREE CHK

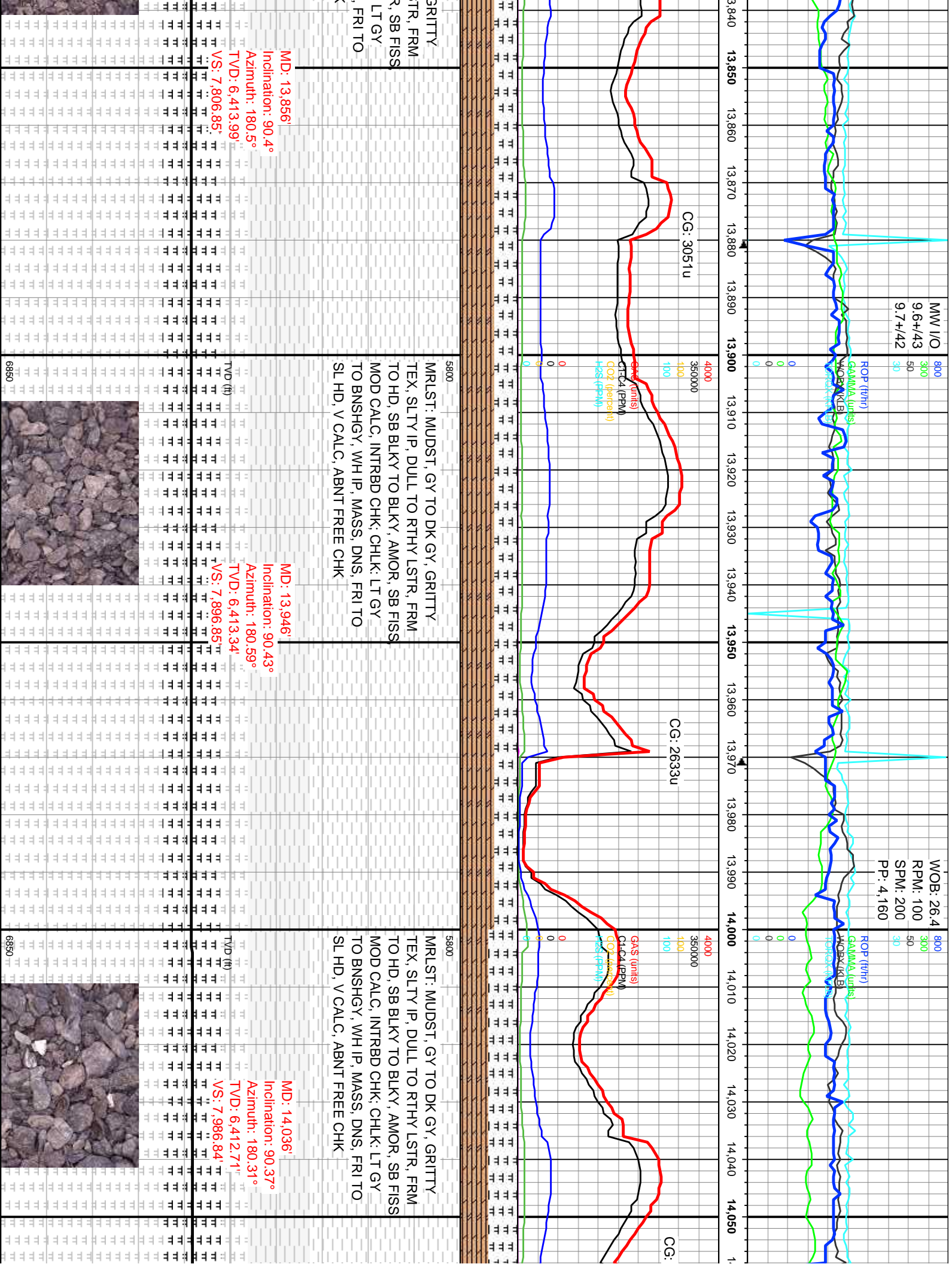
MR LST: MUDST, GY TO DK GY, ( )  
TEX, SLTY IP, DULL TO RTHY LS  
TO HD, SB BLKY TO BLKY, AMOI  
MOD CALC, INTRBD CHK; CHLK:  
TO BNSHG, WH IP, MASS, DNS  
SL HD, V CALC, ABNT FREE CHK

MD: 13,678  
Inclination: 90.18°  
Azimuth: 179.24°  
TVD: 6,414.58'  
VS: 7.628.86'

MD: 13,767  
Inclination: 90.09°  
Azimuth: 179.73°  
TVD: 6,414.37'  
VS: 7.717.85'







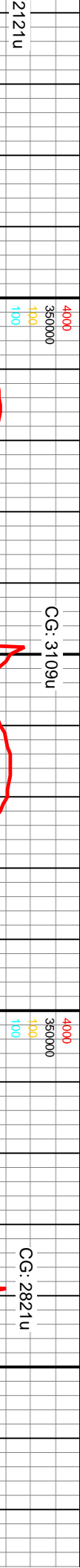
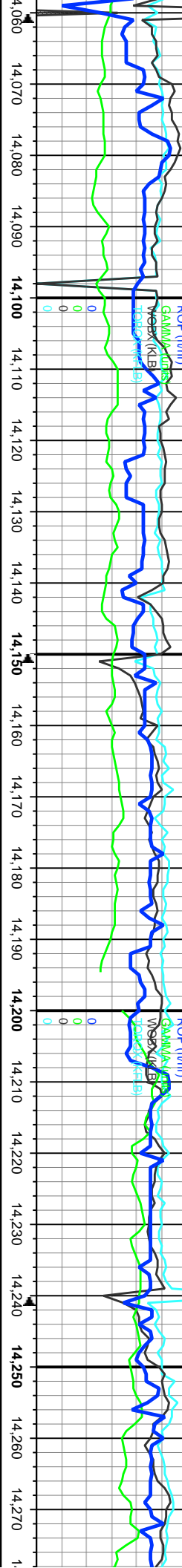


NW I/O  
9.6+/43  
9.7+/42

ROP (ft/hr)  
GAMMA (API)  
WOB (KLB)  
SPM (ft/hr)

WOB: 26  
RPM: 100  
SPM: 202  
PP: 4.289

ROP (ft/hr)  
GAMMA (API)  
WOB (KLB)  
SPM (ft/hr)



2121u

CG: 3109u

CG: 2821u

MM

5800

MRST: MUDST, DK GY, GRITTY TEX,  
RTHY LSTR, FRM TO HD, SB BLKY TO  
BLKY, AMOR, SB FISS, MOD CALC,  
INTRBD CHK: CHLK: LT GY TO BNSHG,  
MASS, DNS, FRI TO SL HD, V CALC, OCC  
FREE CHK

5800

MRST: MUDST, DK GY, GRITTY TEX,  
DULL LSTR, FRM TO SL HD, HD IP, SB  
BLKY TO BLKY, AMOR, SB FISS, MOD  
CALC, SL SLTY IP, INTRBD CHK: CHLK:  
LT GY TO BNSHG, MASS, DNS, FRI TO  
SL HD, V CALC, OCC FREE CHK

MD: 14.126°  
Inclination: 90°  
Azimuth: 179.26°  
TVD: 6,412.42'  
VS: 8,076.84'

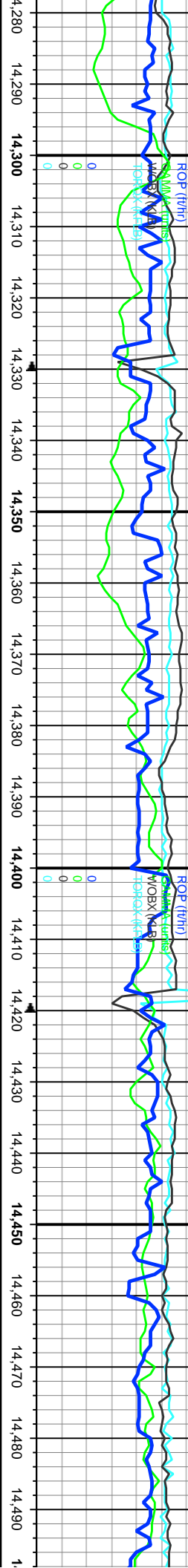
MD: 14.216°  
Inclination: 90.09°  
Azimuth: 179.57°  
TVD: 6,412.35'  
VS: 8,166.83'



MW I/O  
9.7/42  
9.7+/42

WOB: 27  
RPM: 100  
SPM: 202  
PP: 4.289

MW I/O  
9.7/42  
9.8/42

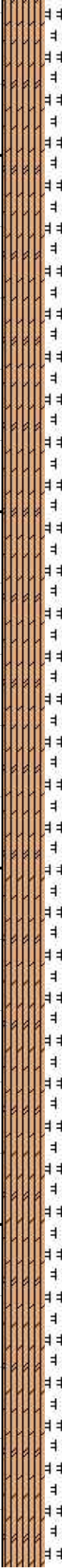


CG: 2800u

CG: 2580u

GMS (units)  
C1-C4 (PPM)  
CO2 (lbperbbl)  
H2S (PPM)

GMS (units)  
C1-C4 (PPM)  
CO2 (lbperbbl)  
H2S (PPM)



5800

5800

MRLST: MUDST, MED TO DK GY, GRITTY  
TEX, SLTY IP, RTHY LSTR, FRM TO HD, SB  
BLKY TO BLKY, AMOR, SB FISS, MOD  
CALC, INTRBD CHK: CHLK: LT GY TO  
BNSHG, MASS, DNS, FRI TO FRM, V  
CALC, ABNT FREE CHK

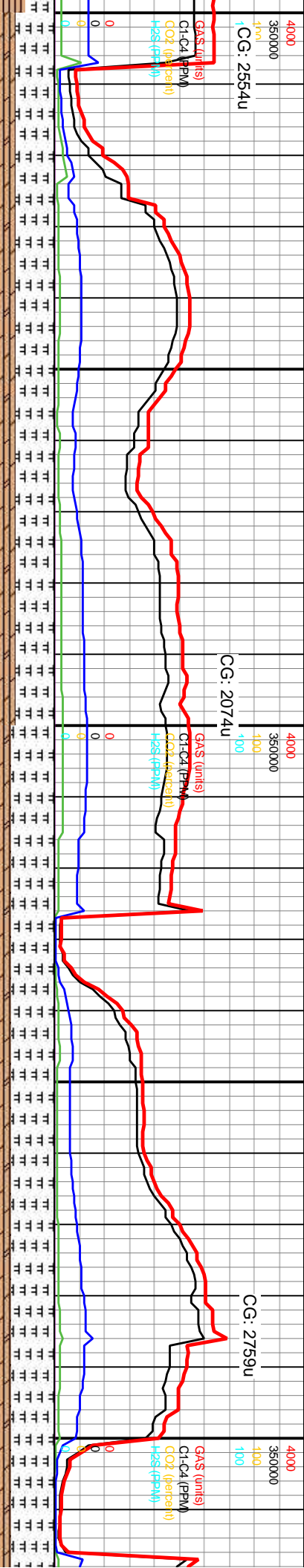
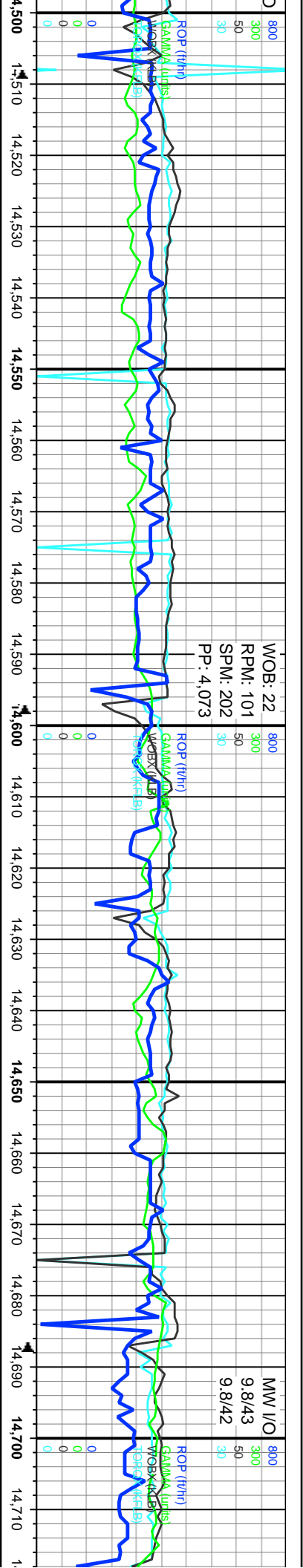
MRLST: MUDST, MED TO DK GY, GRITTY  
TEX, DULL TO RTHY LSTR, FRM TO SL  
HD, HD IP, SB BLKY TO BLKY, AMOR, SB  
FISS IP, MOD CALC, TR INTRBD CHK:  
CHLK: LT GY TO BNSHG, MASS, DNS,  
FRI TO FRM, V CALC, ABNT FREE CHK

MD: 14.305  
Inclination: 90.15°  
Azimuth: 179.89°  
TVD: 6,412.16'  
VS: 8,255.83'

MD: 14.395  
Inclination: 90.18°  
Azimuth: 179.44°  
TVD: 6,411.93'  
VS: 8,345.82'

MD: 14.484  
Inclination: 90.92°  
Azimuth: 180.41°  
TVD: 6,409.99'  
VS: 8,434.81'





5800	MR1ST: MUDST, MED TO DK GY, GRITTY TEX, DULL LSTR, FRM TO SL HD, HD IP, SB BLKY TO BLKY, AMOR, SB FISS, SL SLTY IP, CALC, TR INTRBD CHK; CHLK: LT GY TO BNSHG, OFF WHT IP, MASS, DNS, FRI TO FRM, V CALC, ABNT FREE CHK	6850
5800	MR1ST: MUDST, MED TO DK GY, BLK IP, GRITTY TEX, RTHY LSTR, FRM TO SL HD, SB BLKY TO BLKY, AMOR, SB FISS, SL SLTY, CALC, TR INTRBD CHK; CHLK: LT GY TO BNSHG, MASS, DNS, FRI TO FRM, V CALC, ABNT FREE CHK	6850
5800	MR1ST: MUDS TEX, DULL LSTR, BLKY TO BLKY SLTY IP, CALC CHLK: LT GY TO FRI TO FRM, V	6850

MD: 14.574'

Inclination: 90.4°

Azimuth: 175.22°

TVD: 6,410.01'

VS: 8.524.7'

MD: 14.664'

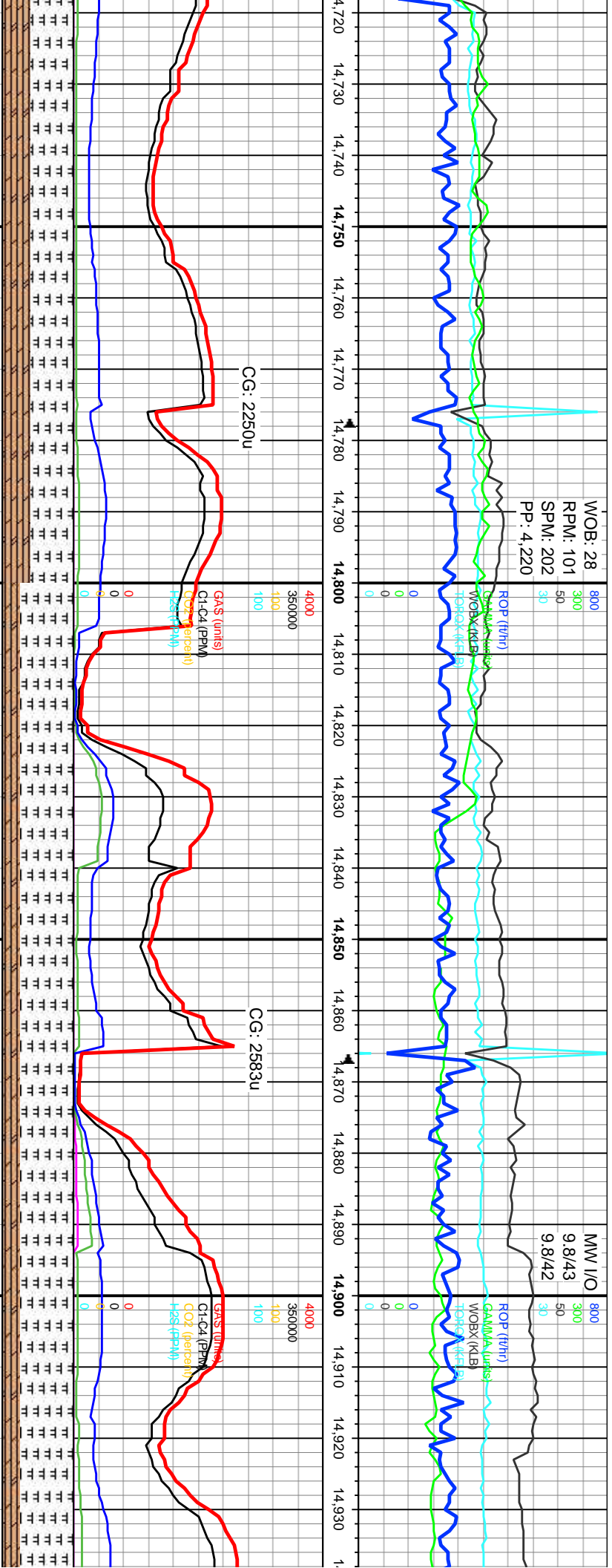
Inclination: 90.34°

Azimuth: 175.43°

TVD: 6,409.43'

VS: 8.614.37'





TR, DK GY, BLK IP, GRITTY  
TR, SL HD TO HD, SB  
, AMOR, SB FISS, SL  
, OCC INTRBD CHK:  
TO BNSHGY, MASS, DNS,  
V CALC, OCC FREE CHK

MD: 14.753'  
Inclination: 90.28°  
Azimuth: 175.32°  
TVD: 6.408.95'  
VS: 8.703.06'



5800

MRLST: MUDST, MED TO DK GY  
IP, GRITTY TEX, RTHY LSTR, SL  
HD, SB BLKY TO BLKY, AMOR, SB  
CALC, SL SLTY IP, OCC INTRBD  
CHLK: LT GY TO BNSHGY, MAS  
FRI TO FRM, V CALC, OCC FRE

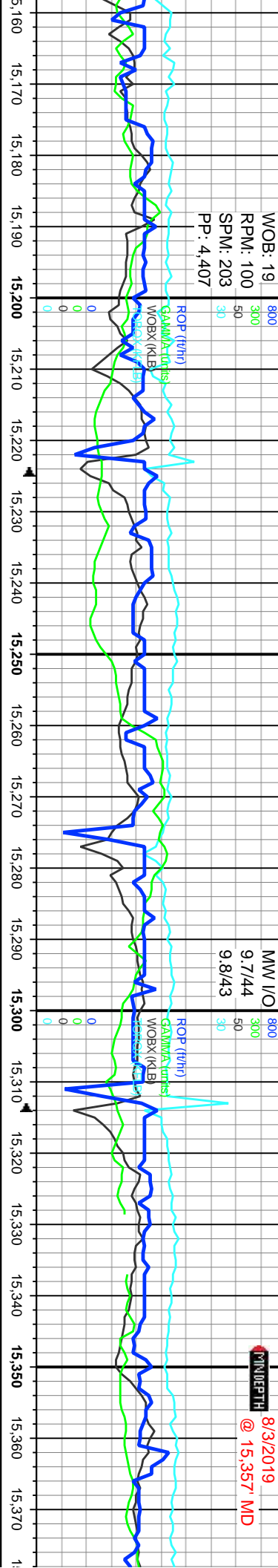
MD: 14.932'  
Inclination: 90.4°  
Azimuth: 180.7°  
TVD: 6.407.63'  
VS: 8.881.74'





WOB: 19  
RPM: 100  
SPM: 203  
PP: 4.407

MW I/O  
9.7/44  
9.8/43



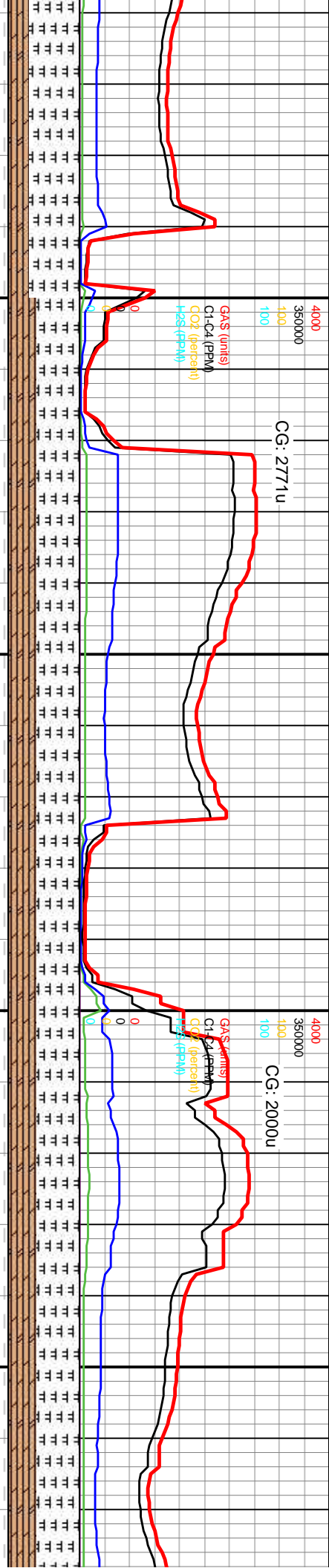
4000  
350000  
100  
100

CG: 2771u

GAS (units)  
C1-C4 (PPM)  
CO2 (lbperbbl)  
H2S (PPM)

GAS (units)  
C1-C4 (PPM)  
CO2 (lbperbbl)  
H2S (PPM)

CG: 2000u



5800

5800

MRSLT: MUDST. DK GY TO BLK. GRITTY  
TEX. DULL TO RTHY LSTR. FRM TO SL  
HD. HD IP, SB BLKY TO BLKY, AMOR, SB  
FISS TO FISS IP, MOD CALC, TR INTRBD  
CHK. CHLK: LT GY TO BNSHG, MASS,  
DNS, FRM TO FRM, V CALC, ABNT FREE  
CHK

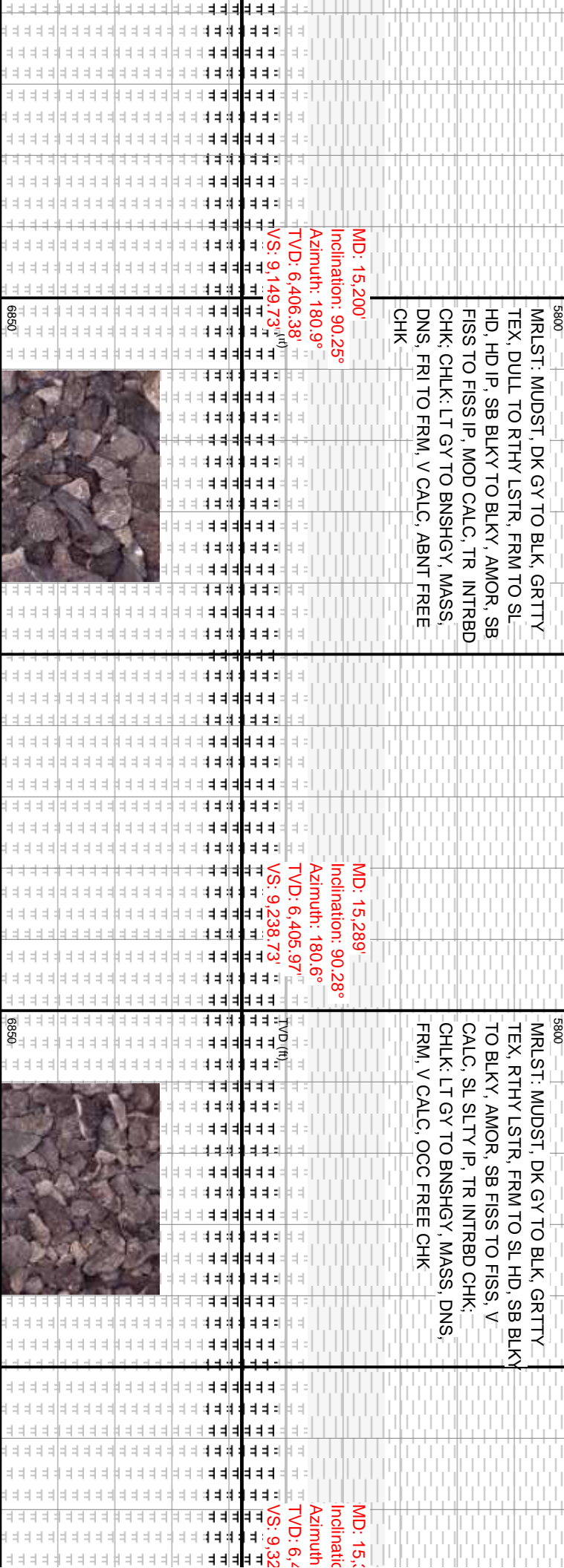
MRSLT: MUDST. DK GY TO BLK. GRITTY  
TEX. RTHY LSTR. FRM TO SL HD. SB BLKY  
TO BLKY, AMOR, SB FISS TO FISS, V  
CALC. SL SLTY IP, TR INTRBD CHK.  
CHLK LT GY TO BNSHG, MASS, DNS,  
FRM, V CALC, OCC FREE CHK

MD: 15,200'  
Inclination: 90.25°  
Azimuth: 180.9°  
TVD: 6,406.38'  
VS: 9,149.73'

MD: 15,289'  
Inclination: 90.28°  
Azimuth: 180.6°  
TVD: 6,405.97'  
VS: 9,238.73'

TVD (ft)

MD: 15,320'  
Inclination: 90.28°  
Azimuth: 180.6°  
TVD: 6,405.97'  
VS: 9,238.73'

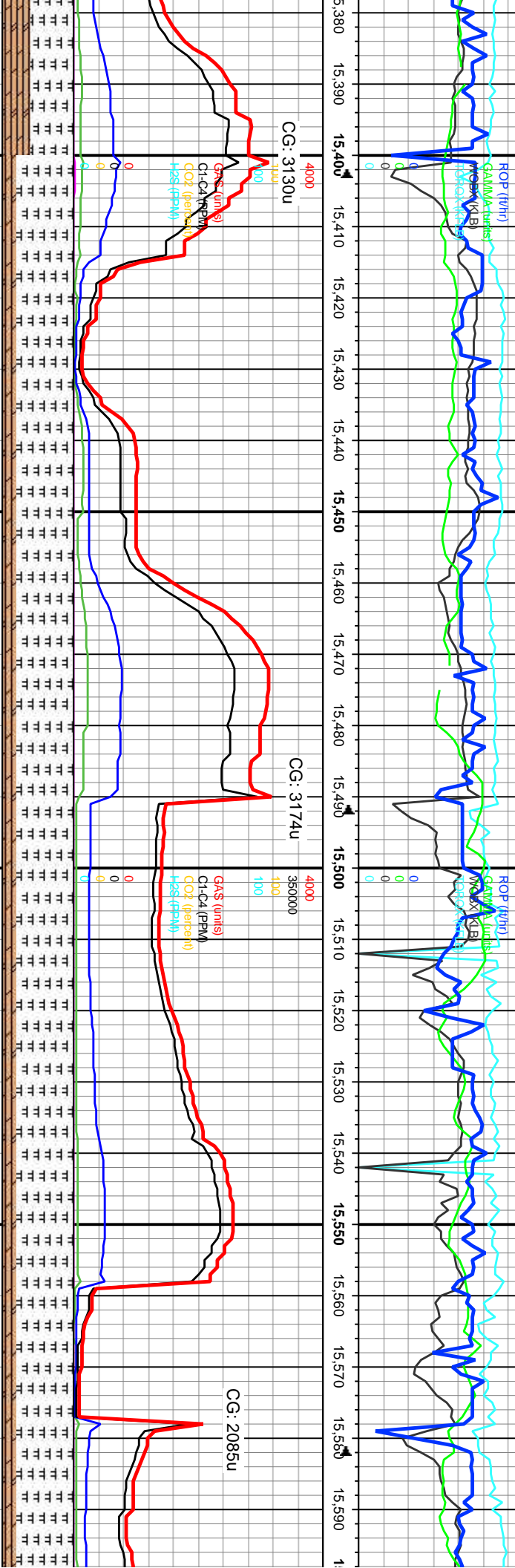




WOB: 21  
RPM: 100  
SPM: 202  
PP: 4.402

NW I/O  
9.6+/44  
9.7+/43

WOB: 21  
RPM: 99  
SPM: 201  
PP: 4.51



5800  
MRSLT: MUDST, DK GY TO BLK, GRITY  
TEX, DULL LSTR, SL HD TO HD, SB  
BLKY TO BLKY, AMOR, SB FISS TO FISS  
V CALC, SL SLTY, TR INTRBD CHK.  
CHLK: LT GY, MASS, DNS, FRM TO SL  
HD, V CALC, OCC FREE CHK

5800  
MRSLT: MUDST, DK GY TO BLK, GRITY  
TEX, DULL LSTR, SL HD TO HD, SB  
BLKY TO BLKY, AMOR, SB FISS TO FISS  
IP, V CALC, SL SLTY, INTRBD CHK.  
CHLK: LT GY TO BNSHG Y IP, MASS,  
DNS, FRI TO FRM, V CALC, OCC FREE  
CHK

379'  
n: 90.25°  
180.47°  
8.72°  
105.55°

MD: 15.468'  
Inclination: 90.37°  
Azimuth: 180.55°  
TVD: 6,405.07'  
VS: 9.417.72'

MD: 15.557'  
Inclination: 90°  
Azimuth: 179.39°  
TVD: 6,405.16'  
VS: 9.506.72'



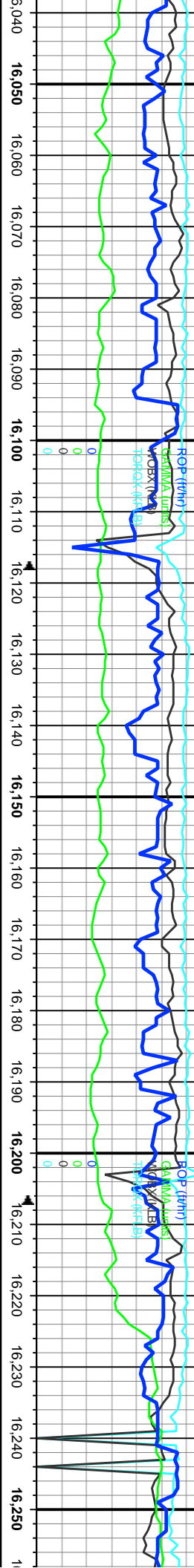






MW I/O  
9.7/45  
9.7/44

WOB: 29  
RPM: 100  
SPM: 202  
PP: 4.613



CG: 3109u

CG: 2712u

GALS (units)  
C1-C4 (PPM)  
H2S (PPM)

GALS (units)  
C1-C4 (PPM)  
H2S (PPM)

GRITTY  
, SB BLKY  
SS IP, V  
CHLK: LT  
I TO FRM,

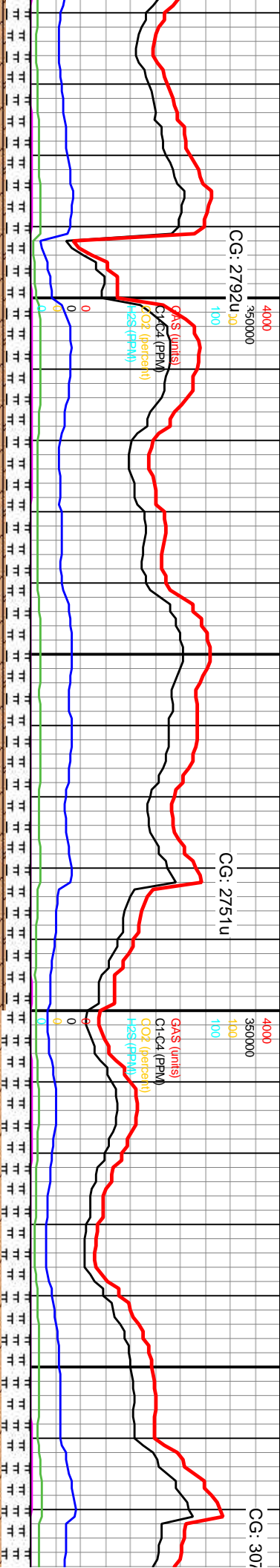
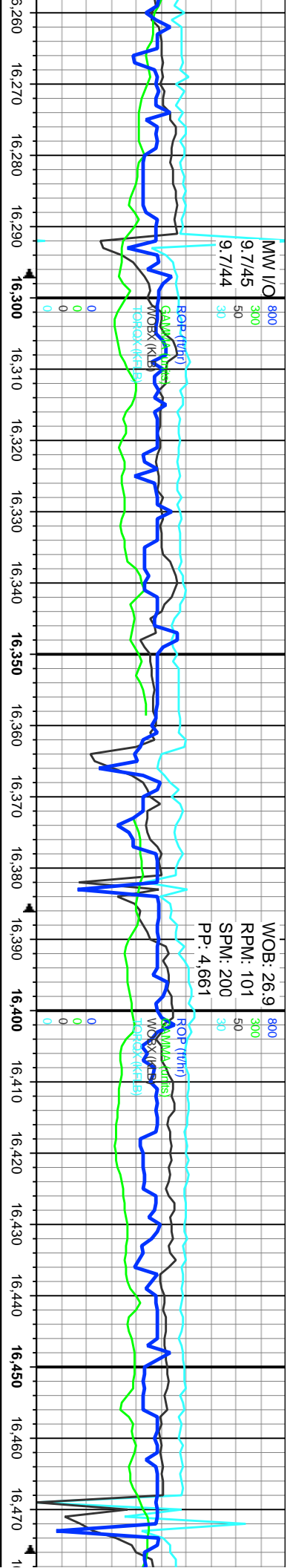
MRSLT: MUDST, MED TO DK GY, GRITTY  
TEX, DULL LSTR, FRM TO SL HD, SB BLKY  
TO BLKY, AMOR, SB FISS TO FISS IP, V  
CALC, SLTY, OCC INTRBD CHK, CHLK: LT  
GY TO BNSHGY, MASS, DNS, FRI TO FRM,  
V CALC, OCC FREE CHK

MRSLT: MUDST, MED TO DK GY, GRITTY  
TEX, DULL LSTR, FRM TO SL HD, BLKY TO  
SB BLKY, AMOR, SB FISS TO SL FISS,  
MOD CALC, INTRBD CHK, SWE FREE  
CHK: CHK: LT GY TO BNSHGY, WH IP,  
MASS, DNS, FRI TO FRM, SB RND TO SB  
BLKY, V CALC

MD: 16.093  
Inclination: 90.43°  
Azimuth: 180.29°  
TVD: 6,403.83  
VS: 10,042.7

MD: 16.182  
Inclination: 90.49°  
Azimuth: 181.65°  
TVD: 6,403.11  
VS: 10,131.68





5800  
MRLST: MUDST, MED TO DK GY, GRTTY  
TEX, DULL LSTR, FRM TO SL HD, BLKY TO  
SB BLKY, AMOR, SB FISS TO SL FISS,  
MOD CALC, INTRBD CHK, SME FREE  
CHK, CHK: LT GY TO BNSHG, WH IP,  
MASS, DNS, FRI TO FRM, SB RND TO SB  
BLKY, V CALC

5800

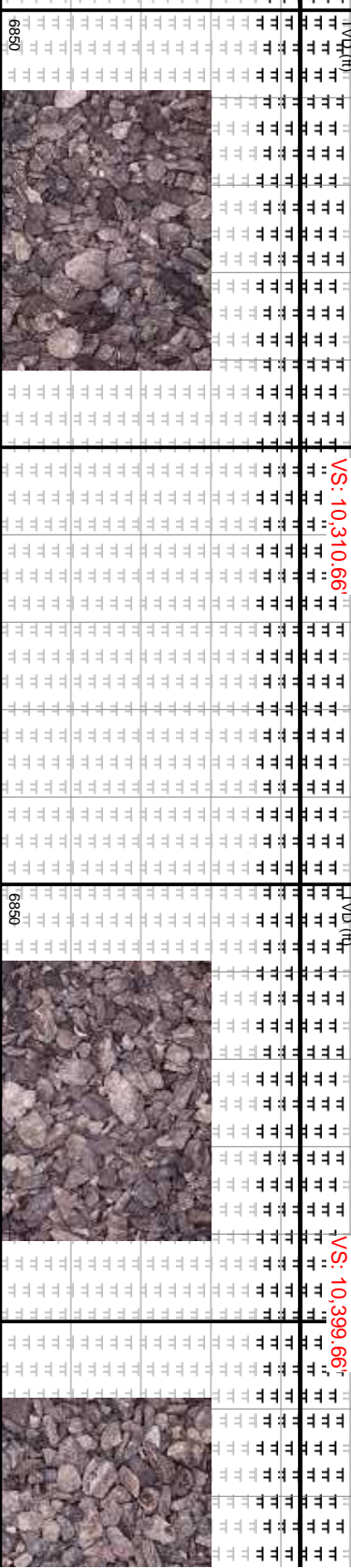
MRLST: MUDST, MED TO DK GY, GRTTY  
TEX, DULL LSTR, FRM TO SL HD, BLKY TC  
SB BLKY, AMOR, SB FISS TO SL FISS,  
MOD CALC, INTRBD CHK, SME FREE  
CHK: CHK: LT GY TO BNSHG, WHIP,  
MASS, DNS, FRI TO FRM, SB RND TO SB  
BLKY, V CALC

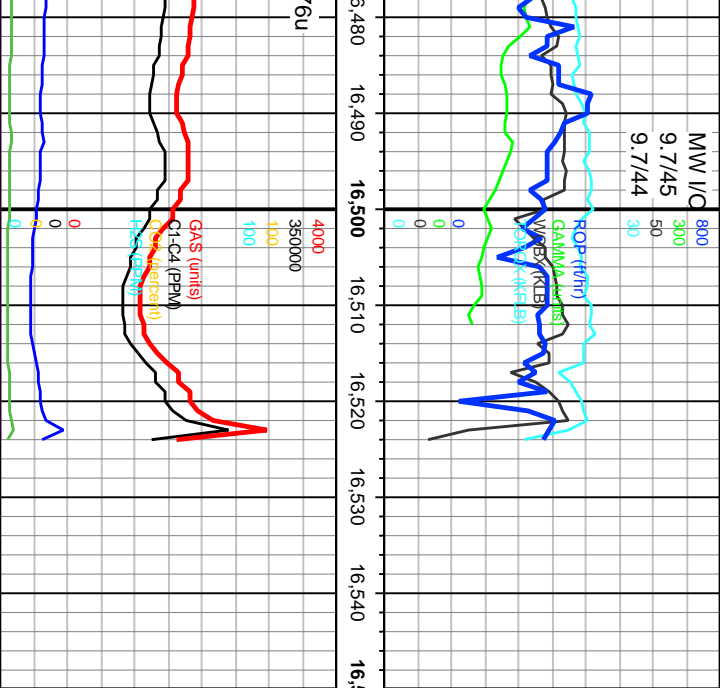
MLRST: MUDST, MEDT  
TEX, DULLSTR, FRMT  
SB BLY, AMOR, SB FIS  
MOD CALC, INTRBD CH  
CHK, CHK: LTGY TO BN  
MASS, DNS, FRI TO FRN  
BLY, V CALC

MD: 16,272'  
Inclination: 90.4°  
Azimuth: 180.93°  
TVD: 6,402.41'

MD: 16,361'  
Inclination: 89.88°  
Azimuth: 180.17°  
TVD: 6,402.2'

MD: 16,450'  
Inclination: 89.91°  
Azimuth: 180.45°  
TVD: 6,402.36'





5800

DK GY, GRITTY  
OSL HD, BLKY TO  
S TO SL FISS,  
K, SME FREE  
ISHGY, WH IP,  
A, SB RND TO SB

TD @ 16,525' MD/  
08/03/2019 06:42 HRS

PROJECTION TO BIT:

MD: 16,501'  
Inclination: 90.28°  
Azimuth: 180.89°  
TVD: 6,402.27'

VS: 10,450.66'

VS: 10,474.66'



6850