

Scale: 5" / 100'
Measured Depth Log

Well Name	North Platte K21-35-2MRLNC		
Location	SWSE Sec. 26 T5N R63W		
State	Colorado	County	Weld
Country	United States	Rig Number	Xtreme 19
API Number	05-123-46388-00	AFE #	18022
Geographic Region	D.J. Basin	Field	Wattenberg
Spud Date	3/29/2018	Drilling Completed	4/6/2018
Surface Coordinates	SWSE Sec.26 T5N R63W 500 FSL 2552 FEL		
Bottom Hole Coordinates	NWNE Sec.26 T5N R63W 50 FNL 2203 FEL		
Ground Elevation	4,550	K.B. Elevation	4,567
Logged Interval	6,000 To 11480	Total Depth	11480
Formation	Niobrara C Chalk		
Type of Drilling Fluid	Oil Based Mud		

Operator

Company Bonanza Creek
Address Bonanza Creek Energy
410 17th Street
Suite 1400
Denver, CO 80202

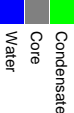
Geologist

Name Paul McKay
Company Bonanza Creek Energy
Address Bonanza Creek Energy
410 17th Street
Suite 1400
Denver, CO 80202







































Other

Robert Davis Wellsite Geologist
Dan Kabala Wellsite Geologist

Zone Color Coding






Rock Types

 UNKNOWN	   MARLSTONE	 SILTSTONE	 BENTONITE
 GYPSUM	   CLAYSTONE	 SANDSTONE	 TUFF
 LIMESTONE	   SHALE	 CONGLOMERATE	 CEMENT
     CHERT	   SHALE GRAY	   BRECCIA	 CHALK
 COAL	   SHALE COLORED	   TILL	 SILTY SHALE

Other S

Oil Show


 MOLDIC	
 ORGANIC	

 DEAD

 DEAD


 EVEN

 EVEN

 QUESTIONABLE

 QUESTIONABLE


Engineering

 SPOTTED STAINING

 SPOTTED STAINING

Porosity

 BIT	
 CASING	
	


 EARTHY


 EARTHY

 FENESTRAL


 FENESTRAL

 FRACTURE

 FRACTURE






































 INTERCRYSTALLINE

 INTERCRYSTALLINE

 INTEROOLITIC

 INTEROOLITIC

Accessories

 FORAMINIFERA	 GLAUCONITE	 COAL STRINGER
 FOSSIL	 ANHYDRITIC	 GYPSIFEROUS
 ALGAE	 GASTROPOD	 MARLSTONE
 AMPHIPORA	 OOLITE	 BITUMENOUS SUBSTANCE
 BELEMNITE	 OSTRACOD	 PHOSPHATE PELLETS
 BIOCLASTIC	 PELECYPOD	 CARBONACEOUS FLAKES
 BRACHIOPOD	 PELLET	 PYRITE
 BRYOZOA	 PISULITE	 SANDY
 CEPHALOPOD	 PLANT REMAINS	 SILTACEOUS
 CORAL	 PLANT SPORES	 SILTY
 CRINOID	 SCAPHOPOD	
 ECHINOID	 STROMATOPOROID	
 FISH	 FERRUGINOUS PELLET	
	 FERRUGINOUS	

Stringer

 CHALK STRINGER	 SILTY SHALE STRINGER
--	--

Minerals


 MOLDIC	
 ORGANIC	

 DEAD

 DEAD


 EVEN

 EVEN

 QUESTIONABLE

 QUESTIONABLE


Engineering


 SPOTTED STAINING

 SPOTTED STAINING

Porosity

 BIT	
 CASING	
	


 EARTHY


 EARTHY

 FENESTRAL


 FENESTRAL

 FRACTURE

 FRACTURE

 INTERCRYSTALLINE

 INTERCRYSTALLINE

 INTEROOLITIC

 INTEROOLITIC

Symbols

FORMATION TOP **BS** SUBANG **PS** PACKSTONE

HOW **PS** SUBRND **WS** WACKESTONE

VALL CORE (LEFT)

Textures Sorting

VALL CORE (RIGHT)

BS BOUNDSTONE **M** MODERATE

VIEWY **C** CHALKY **P** POOR


OGAS **CX** CRYPTOXLN **W** WELL


LINE TESTED - LEFT **E** EARTHY

Cut

LINE TESTED - RT **FX** FINELYXLN

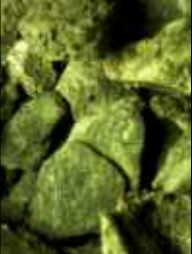
ES GRAINSTONE  No Cut

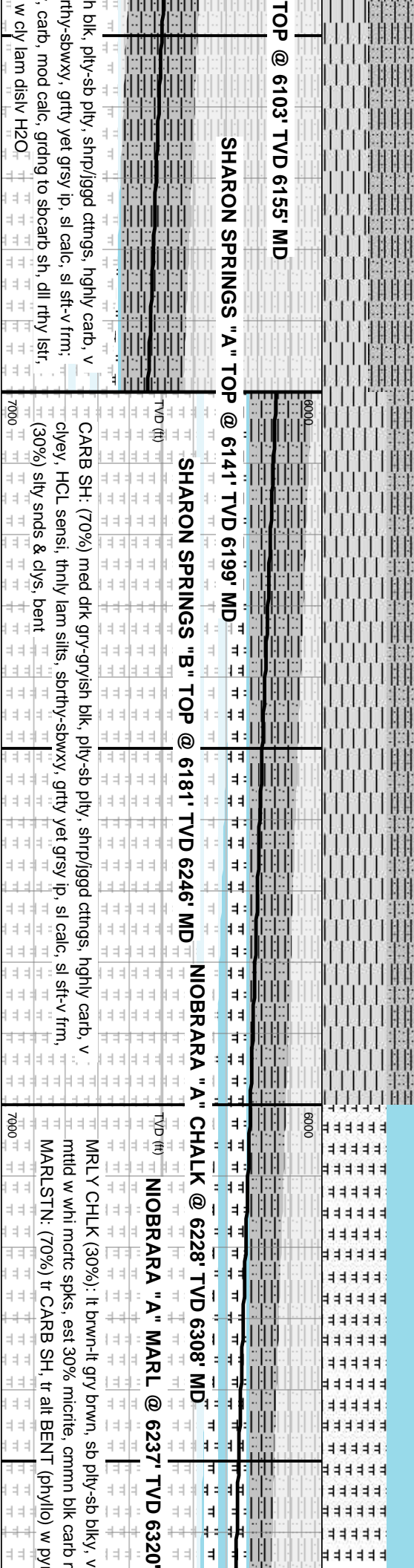
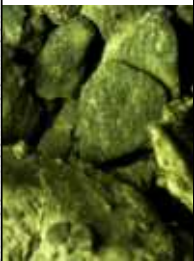
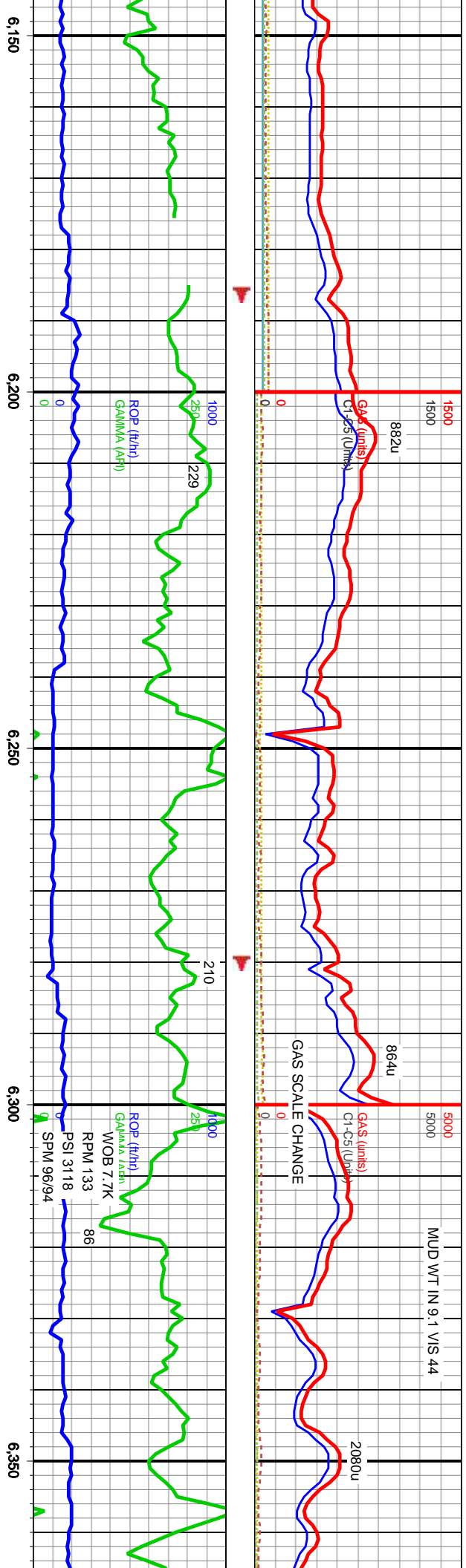
L LITHOGRAPHIC  Fair Cut

LAR **MX** MICROXLN  Good Cut

DED **MS** MUDSTONE Blank

ding

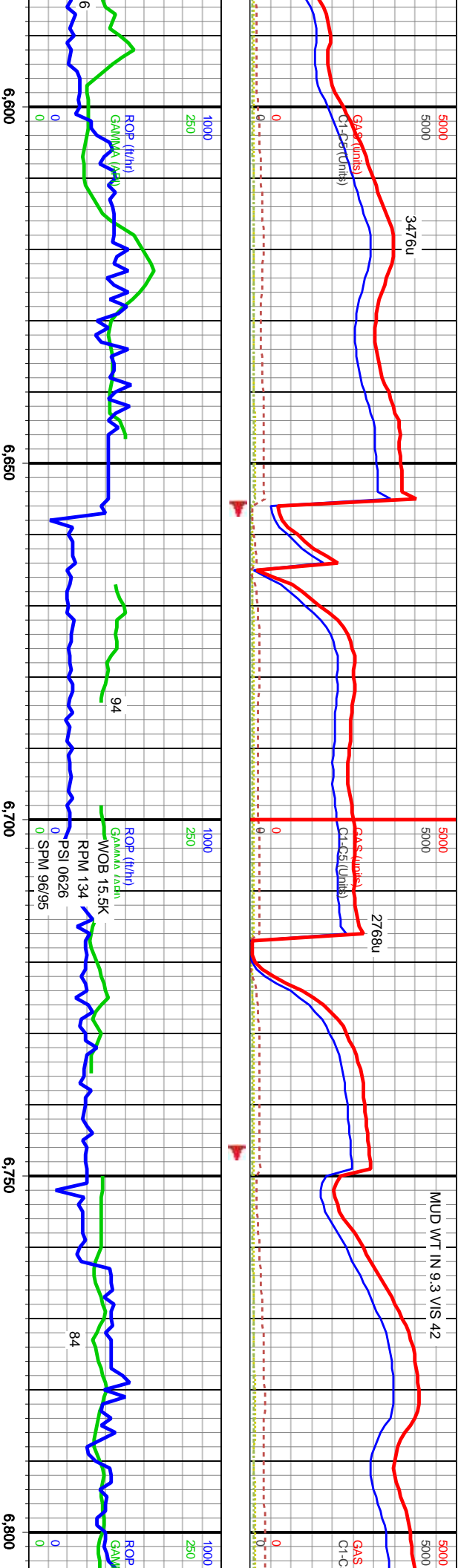
Logger on Shift		ROBERT ON TOUR	
Curve/Survey Data		GAS SCALE -60 TO 540 (60 UNITS/DIVISION)	
GAS		1500	
C1		1500	
C2		1500	
C3		1500	
C4		1500	
C5		1500	
Connections		CONNECTIONS MARKED WITH RED TRIANGLES	
Curve/Survey Data		ROP SCALE 0-1000	
ROP		1000	
GAMMA		250	
GAMMA & SURVEYS RECEIVED FROM BAKER HUGHES		111	
Depth Labels		6,000 6,050 6,100	
Sample Photographs			
% Lith			
Well Bore		BONANZA CREEK ENERGY NORTH PLATTE K21-35-2MRLNC SEC 26. T5N R63W WELD CO., CO	
TVD		LOGGERS:ROBERT DAVIS DAN KABALA	
Survey Data		CALLED OUT on 4/4/2018 Started logging @ 06:17. Bit #2: SECURITY, TYPE: GT55, SERIAL #: 12986145 IN @ 1513 MD out on 4/6/2018 @11480 MD	
		SLTY SH: (100%) lt-m gy, sb ply-pty, carb, mod calc, grding to sbcarb sh, dill rthy lstr, silty-clay txt, carb frags, sft-firm, clayey w cly lam dislv H2O	
		CARB SH: (50%) med dk gry-gry/sls clayey, HCL sensi, thnly lam silts, sb SLTY SH:(50%) lt-m gy, sb ply-pty silty-clay txt, carb frags, sft-firm, clayey	
		MD: 6,069' Inclination: 18° Azimuth: 188° TVD: 6,023' VS: 520'	



MD: 6,163'
Inclination: 26°
Azimuth: 185°
TVD: 6,110
VS: 555'

MD: 6,257'
Inclination: 37°
Azimuth: 178°
TVD: 6,190
VS: 604'

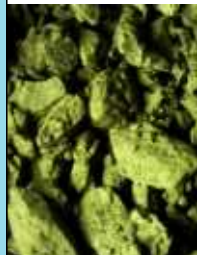
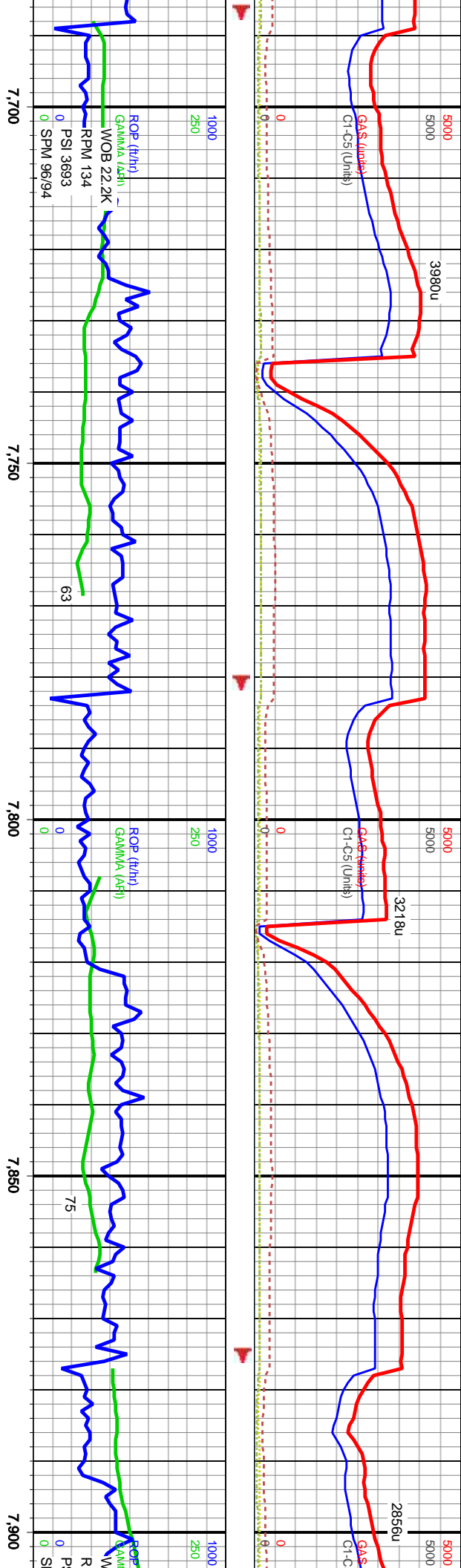
MD: 6,350'
Inclination: 49°
Azimuth: 176°
TVD: 6,259
VS: 667'



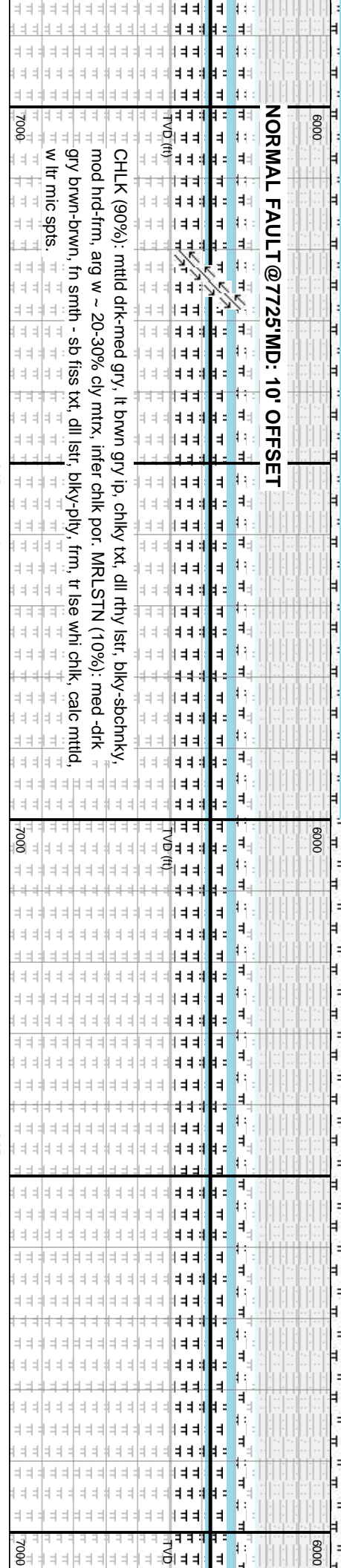
BRARA "C" CHALK @ 6366' TVD 6604' MD		Landed Curve @ 6726' MD 6378' TVD	
6000	6000	6000	6000
6001	6002	6001	6002
6002	6003	6002	6003
6003	6004	6003	6004
6004	6005	6004	6005
6005	6006	6005	6006
6006	6007	6006	6007
6007	6008	6007	6008
6008	6009	6008	6009
6009	6010	6009	6010
6010	6011	6010	6011
6011	6012	6011	6012
6012	6013	6012	6013
6013	6014	6013	6014
6014	6015	6014	6015
6015	6016	6015	6016
6016	6017	6016	6017
6017	6018	6017	6018
6018	6019	6018	6019
6019	6020	6019	6020
6020	6021	6020	6021
6021	6022	6021	6022
6022	6023	6022	6023
6023	6024	6023	6024
6024	6025	6024	6025
6025	6026	6025	6026
6026	6027	6026	6027
6027	6028	6027	6028
6028	6029	6028	6029
6029	6030	6029	6030
6030	6031	6030	6031
6031	6032	6031	6032
6032	6033	6032	6033
6033	6034	6033	6034
6034	6035	6034	6035
6035	6036	6035	6036
6036	6037	6036	6037
6037	6038	6037	6038
6038	6039	6038	6039
6039	6040	6039	6040
6040	6041	6040	6041
6041	6042	6041	6042
6042	6043	6042	6043
6043	6044	6043	6044
6044	6045	6044	6045
6045	6046	6045	6046
6046	6047	6046	6047
6047	6048	6047	6048
6048	6049	6048	6049
6049	6050	6049	6050
6050	6051	6050	6051
6051	6052	6051	6052
6052	6053	6052	6053
6053	6054	6053	6054
6054	6055	6054	6055
6055	6056	6055	6056
6056	6057	6056	6057
6057	6058	6057	6058
6058	6059	6058	6059
6059	6060	6059	6060
6060	6061	6060	6061
6061	6062	6061	6062
6062	6063	6062	6063
6063	6064	6063	6064
6064	6065	6064	6065
6065	6066	6065	6066
6066	6067	6066	6067
6067	6068	6067	6068
6068	6069	6068	6069
6069	6070	6069	6070
6070	6071	6070	6071
6071	6072	6071	6072
6072	6073	6072	6073
6073	6074	6073	6074
6074	6075	6074	6075
6075	6076	6075	6076
6076	6077	6076	6077
6077	6078	6077	6078
6078	6079	6078	6079
6079	6080	6079	6080
6080	6081	6080	6081
6081	6082	6081	6082
6082	6083	6082	6083
6083	6084	6083	6084
6084	6085	6084	6085
6085	6086	6085	6086
6086	6087	6086	6087
6087	6088	6087	6088
6088	6089	6088	6089
6089	6090	6089	6090
6090	6091	6090	6091
6091	6092	6091	6092
6092	6093	6092	6093
6093	6094	6093	6094
6094	6095	6094	6095
6095	6096	6095	6096
6096	6097	6096	6097
6097	6098	6097	6098
6098	6099	6098	6099
6099	6100	6099	6100
6100	6101	6100	6101
6101	6102	6101	6102
6102	6103	6102	6103
6103	6104	6103	6104
6104	6105	6104	6105
6105	6106	6105	6106
6106	6107	6106	6107
6107	6108	6107	6108
6108	6109	6108	6109
6109	6110	6109	6110
6110	6111	6110	6111
6111	6112	6111	6112
6112	6113	6112	6113
6113	6114	6113	6114
6114	6115	6114	6115
6115	6116	6115	6116
6116	6117	6116	6117
6117	6118	6117	6118
6118	6119	6118	6119
6119	6120	6119	6120
6120	6121	6120	6121
6121	6122	6121	6122
6122	6123	6122	6123
6123	6124	6123	6124
6124	6125	6124	6125
6125	6126	6125	6126
6126	6127	6126	6127
6127	6128	6127	6128
6128	6129	6128	6129
6129	6130	6129	6130
6130	6131	6130	6131
6131	6132	6131	6132
6132	6133	6132	6133
6133	6134	6133	6134
6134	6135	6134	6135
6135	6136	6135	6136
6136	6137	6136	6137
6137	6138	6137	6138
6138	6139	6138	6139
6139	6140	6139	6140
6140	6141	6140	6141
6141	6142	6141	6142
6142	6143	6142	6143
6143	6144	6143	6144
6144	6145	6144	6145
6145	6146	6145	6146
6146	6147	6146	6147
6147	6148	6147	6148
6148	6149	6148	6149
6149	6150	6149	6150
6150	6151	6150	6151
6151	6152	6151	6152
6152	6153	6152	6153
6153	6154	6153	6154
6154	6155	6154	6155
6155	6156	6155	6156
6156	6157	6156	6157
6157	6158	6157	6158
6158	6159	6158	6159
6159	6160	6159	6160
6160	6161	6160	6161
6161	6162	6161	6162
6162	6163	6162	6163
6163	6164	6163	6164
6164	6165	6164	6165
6165	6166	6165	6166
6166	6167	6166	6167
6167	6168	6167	6168
6168	6169	6168	6169
6169	6170	6169	6170
6170	6171	6170	6171
6171	6172	6171	6172
6172	6173	6172	6173
6173	6174	6173	6174
6174	6175	6174	6175
6175	6176	6175	6176
6176	6177	6176	6177
6177	6178	6177	6178
6178	6179	6178	6179
6179	6180	6179	6180
6180	6181	6180	6181
6181	6182	6181	6182
6182	6183	6182	6183
6183	6184	6183	6184
6184	6185	6184	6185
6185	6186	6185	6186
6186	6187	6186	6187
6187	6188	6187	6188
6188	6189	6188	6189
6189	6190	6189	6190
6190	6191	6190	6191
6191	6192	6191	6192
6192	6193	6192	6193
6193	6194	6193	6194
6194	6195	6194	6195
6195	6196	6195	6196
6196	6197	6196	6197
6197	6198	6197	6198
6198	6199	6198	6199
6199	6200	6199	6200

MD: 6,632'
Inclination: 83°
Azimuth: 186°
TVD: 6,372'
VS: 920'

MD: 6,726'
Inclination: 90°
Azimuth: 185°
TVD: 6,378'
VS: 1,013'



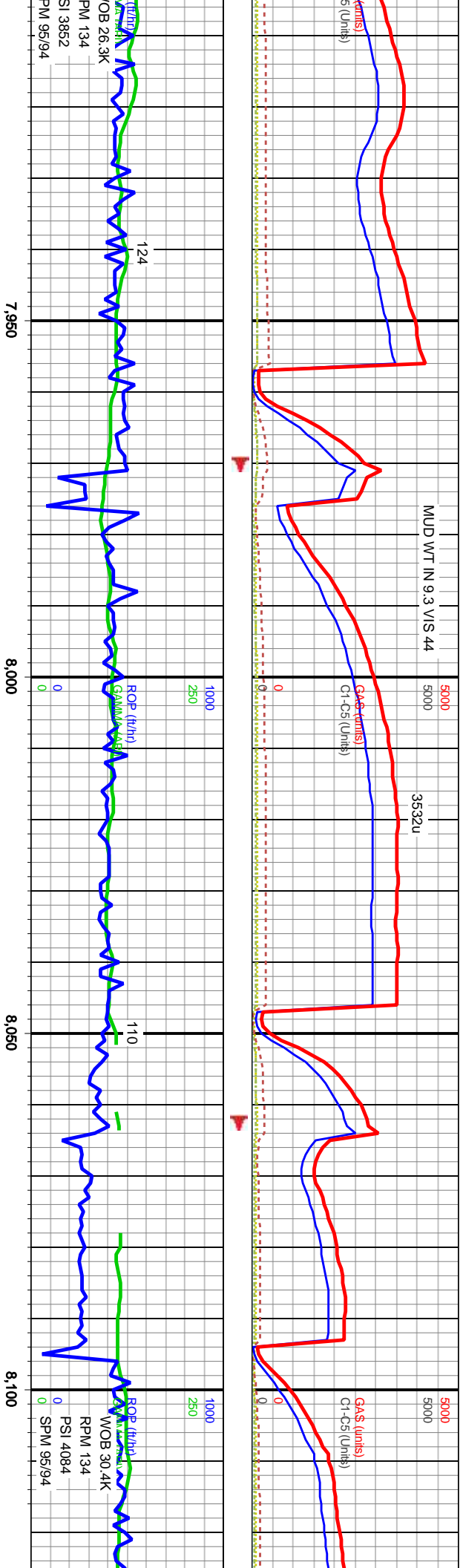
NORMAL FAULT @ 7725 MD: 10' OFFSET



CHLK (90%): mttld drk-med gry, lt brwn gry ip, chiky txt, dll rthy lstr, blkly-sbchnky, mod hrd-frm, arg w ~ 20-30% cly mtrx, infer chlk por. MRLSTN (10%): med-drk gry brwn-brwn, fn smth - sb fiss txt, dll lstr, blkly-pty, frm, tr lse whi chlk, calc mttld, w ltr mic spts.

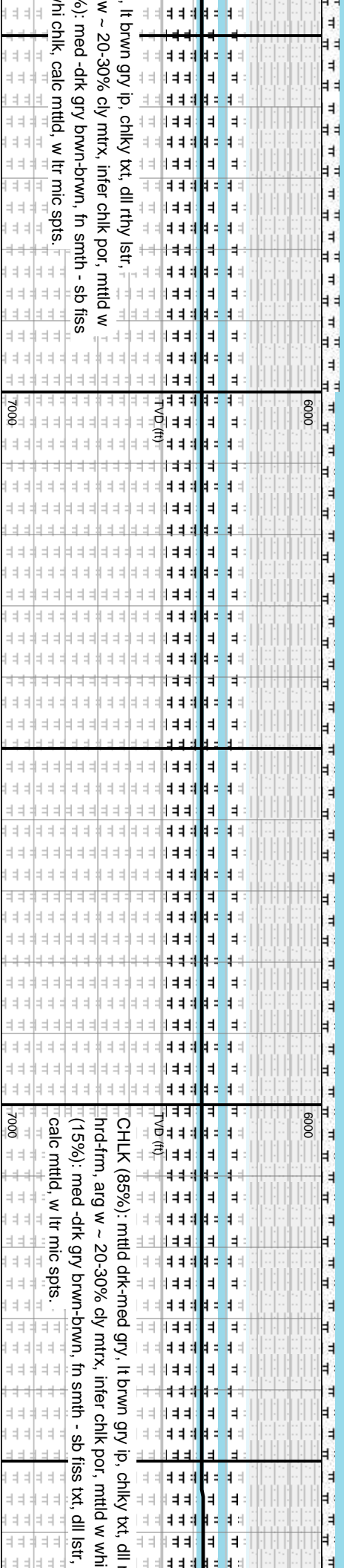
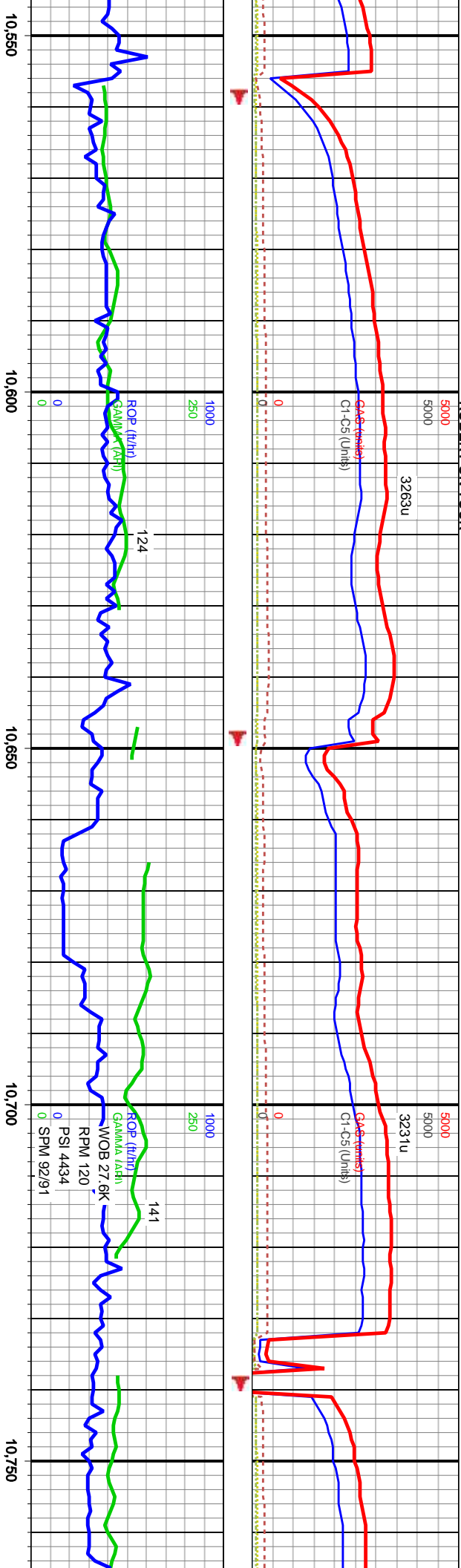
MD: 7,758'
Inclination: 91°
Azimuth: 182°
TVD: 6,375'
VS: 2,040'

MD: 7,852'
Inclination: 91°
Azimuth: 184°
TVD: 6,373'
VS: 2,134'

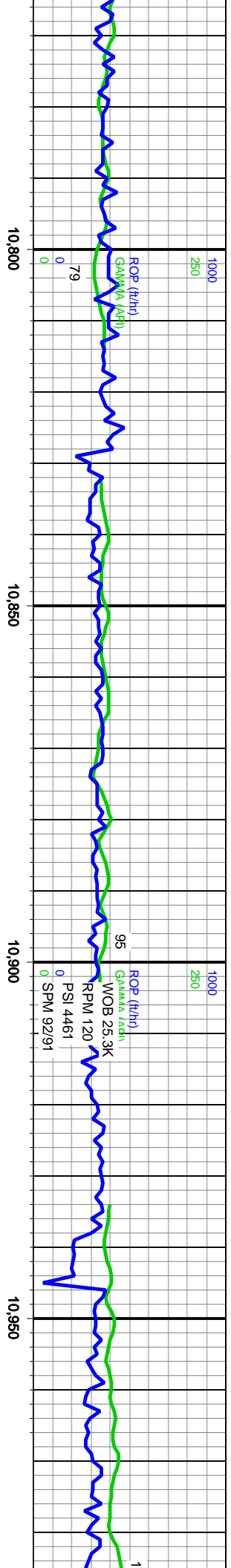
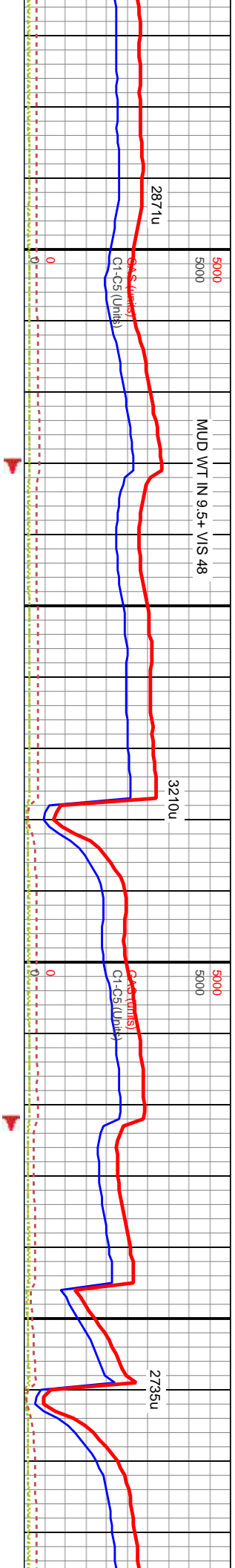
[illegible]

MD: 7,946'
Inclination: 91°
Azimuth: 185°
TVD: 6,371'
VS: 2,228'

MD: 8,039'
Inclination: 90°
Azimuth: 183°
TVD: 6,371'
VS: 2,321'

[illegible]

MD: 10,623'	MD: 10,715'
Inclination: 90°	Inclination: 90°
Azimuth: 181°	Azimuth: 181°
TVD: 6,371'	TVD: 6,371'
VS: 4,899'	VS: 4,991'

[illegible]

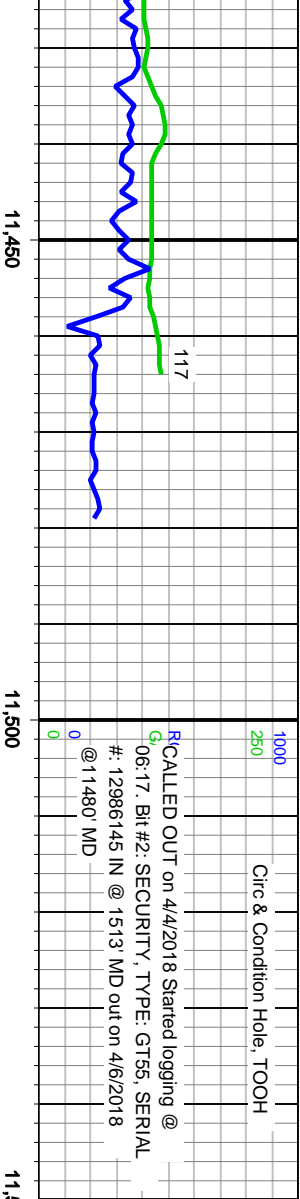
Niobrara C Chal

MD: 10,806'
Inclination: 90°
Azimuth: 182°
TVD: 6,371'
VS: 5,082'

MD: 10,897'
Inclination: 90°
Azimuth: 174°
TVD: 6,371'
VS: 5,172'

MD: 10;
Inclinati
Azimuth
TV D: 6,
VS: 5,2

		MD	TVD
5000			
5000			
		Sharon Springs "A"	6103
		Sharon Springs "A"	6141
		Sharon Springs "B"	6181
		GAS ↓ Sharon Springs "B"	6228
		C1-C5 Niobrara "A" Chalk	6308
		Niobrara "A" Marl	6320
		Niobrara "B" Chalk	6414
		Niobrara "B" Marl	6480
		Niobrara "C" Chalk	6604
0			6366



		Projection to Bit	6000
		DMTD 11480' MD @ 09:07 4/6/2018	
		Formation Tops picked by Paul McKay (Bonaanza Creek)	
		TVD Dan Kabala	
		Robert Davis	
		Thank you for using Decollement Consulting Inc	
		7000-	

MD: 11,455' MD: 11,480'

Inclination: 90° Inclination: 90°

Azimuth: 190° Azimuth: 190°

TVD: 6,371 TVD: 6,371

VS: 5,728 VS: 5,752