



Scale: 5" / 100'
Measured Depth Log

Well Name Winder South 9

Location Sec. 9-T6N-R67W

State Colorado

County Weld

Country USA

Rig Number Patterson 346

API Number 05-123-43406-00

Field Wattenberg

Geographic Region DJ Basin

Drilling Completed 10/13/2016

Spud Date 10/9/2016

Surface Coordinates SHL: 2306'FNL, 368' FEL, Sec. 9 T6N R67W

Lat: 40.502672 / 40° 30' 9.6186"
Long: -104.890196 / -104° 53' 24.7056"

Bottom Hole Coordinates PBHL: 1046' FSL, 460' FWL, Sec. 8 T6N R67W

Ground Elevation 4,856'

K.B. Elevation 4,880.5'

Logged Interval 5,000' MD To 7,100'

Total Depth 17,260'

Formation Niobrara B Chalk

Type of Drilling Fluid Oil Based Mud

Operator

Company Extaction Oil & Gas








Address 1888 Sherman St., Suite 200
Denver, CO 80203

Geologist

Name Jared Rouse

Company Extraction Oil & Gas

Zone Color Coding

 Oil	 Condensate	 Gas
 Note	 Core	 Pressure
 Error	 Water	 Seal

Address 1888 Sherman St., Suite 200
Denver, CO 80203

Other

Equipment ML-589

Comments Start: 10-9-16
TD: 10-13-16

Services Provided 2-man Logging
On Site Geosteering

Logger Names Dominic Pitre / Nicholas Watkins

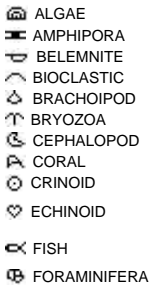
Address ALS Empirica
6510 Guhn Road
Houston, Texas 77040

Rock Types



Accessories

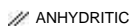
Fossils



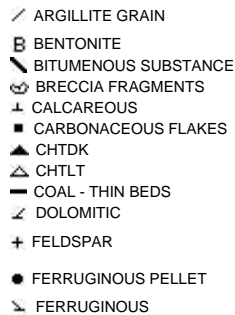
Fossil



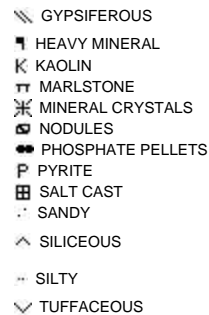
Minerals



ARGILLACEOUS



GLAUCONITE

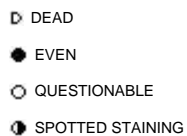


Stringer

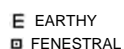


Other Symbols

Oil Show



Porosity



ORGANIC



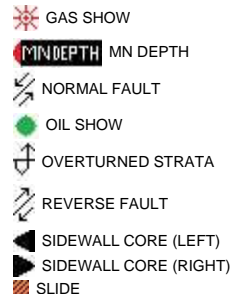
VUGGY



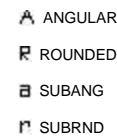
Engineering



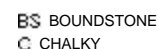
FORMATION TOP



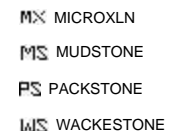
Rounding



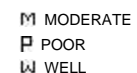
Textures



LITHOGRAPHIC



Sorting



F FRACTURE

X INTERCRYSTALLINE

Φ INTEROOLITIC

MOLDIC

↓ CORE - LOST

■ CORE - RECOVERED

⋮ DST INTERVAL

⚡ FAULT

DS SURVEY

TRIP GAS

◁ WIRELINE TESTED - LEFT

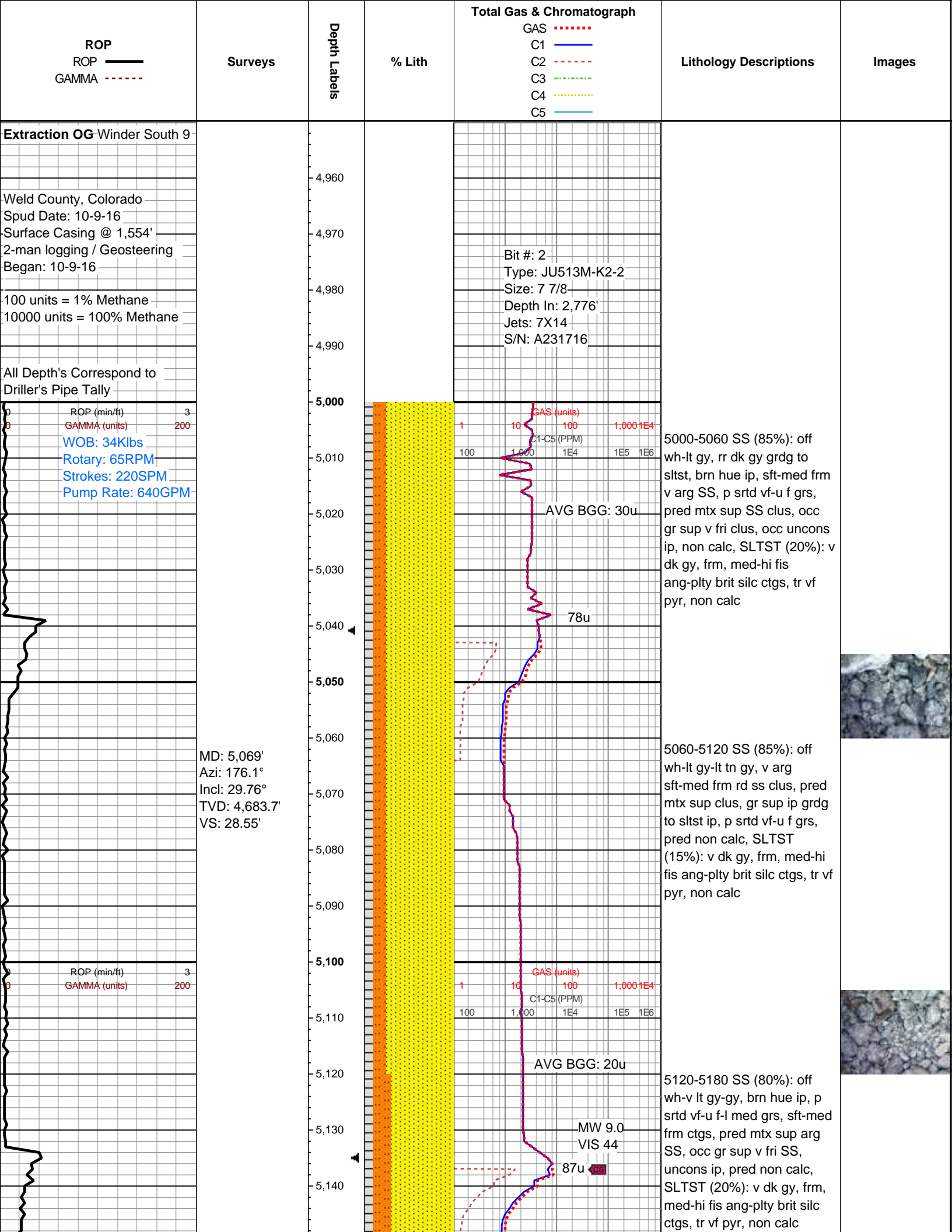
▷ WIRELINE TESTED - RT

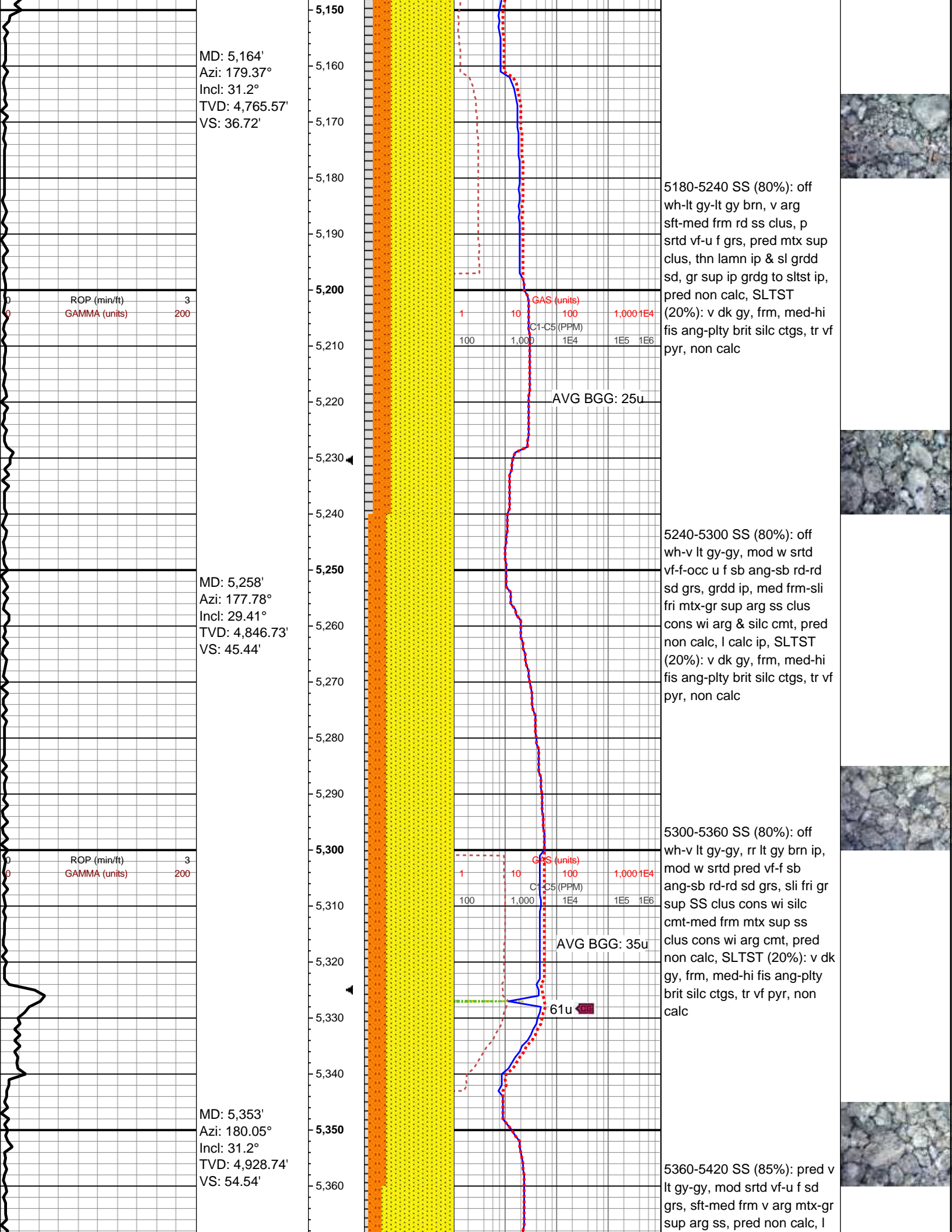
CC CRYPTOXLN

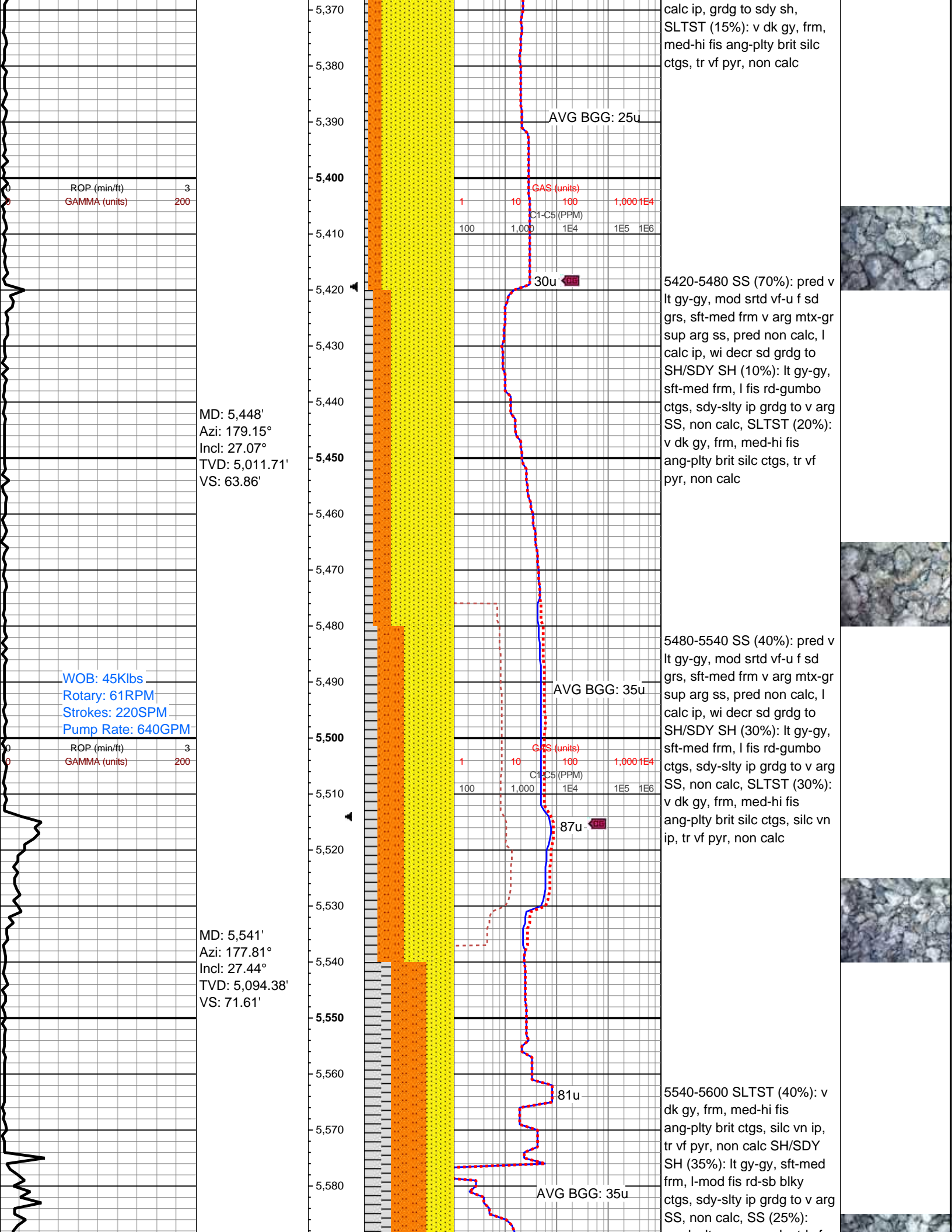
E EARTHY

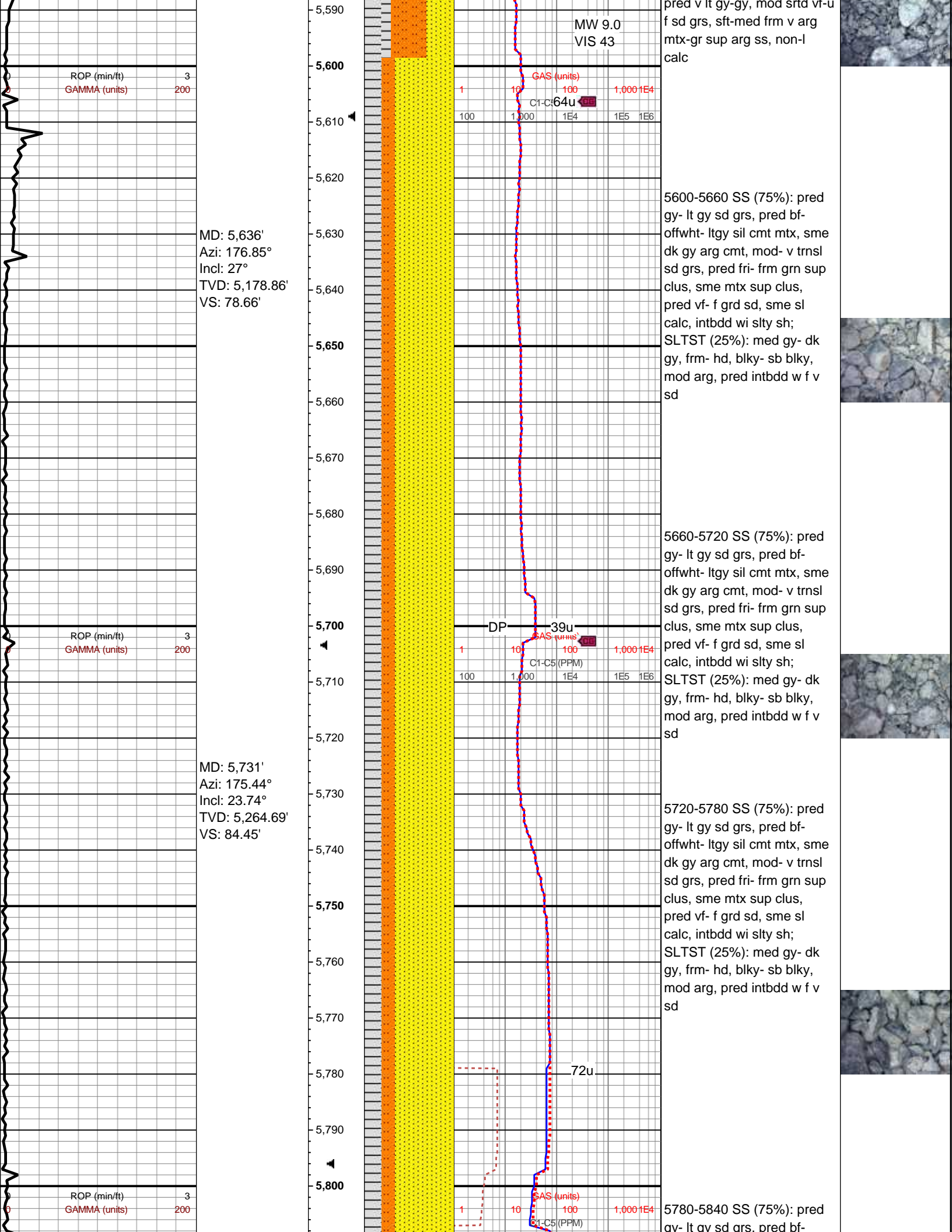
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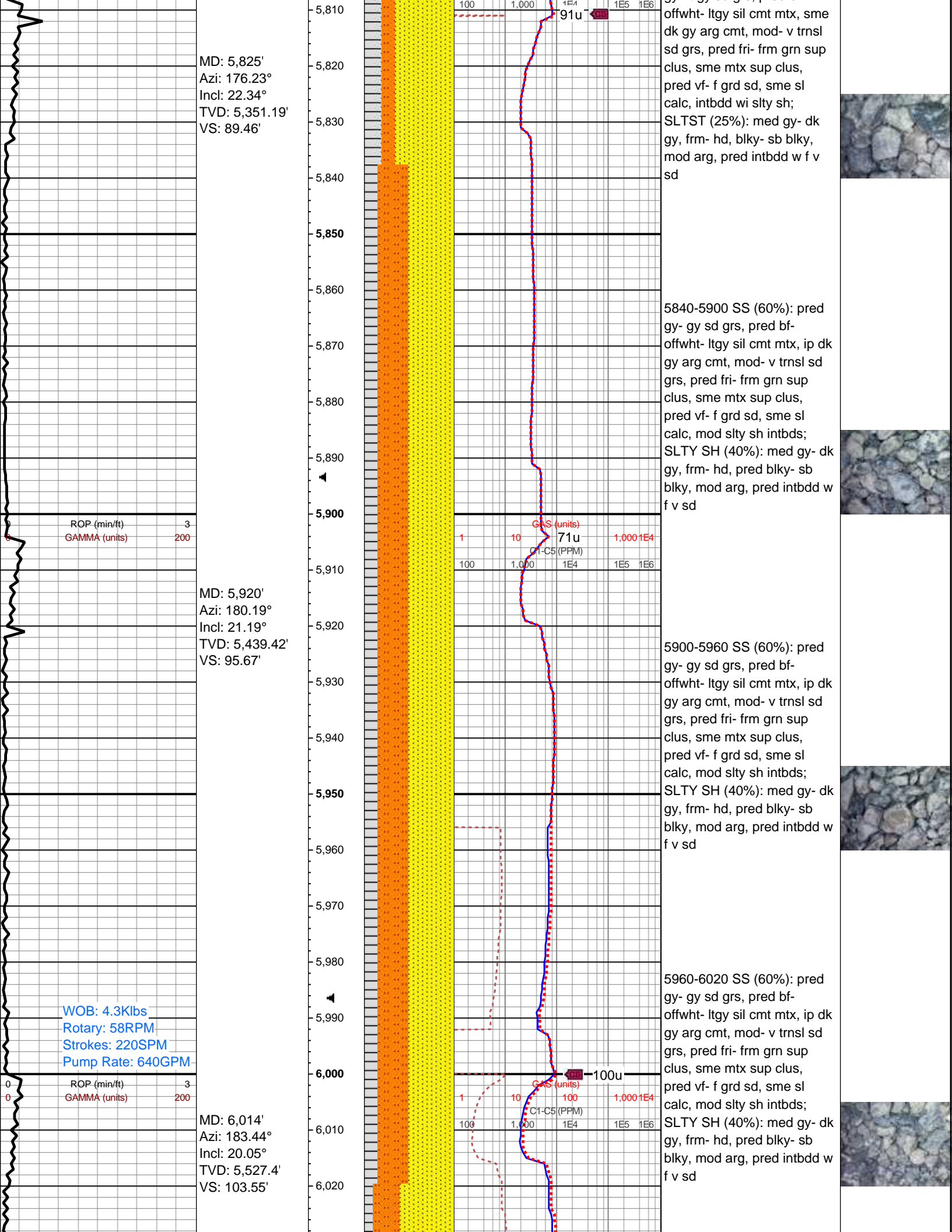
GS GRAINSTONE

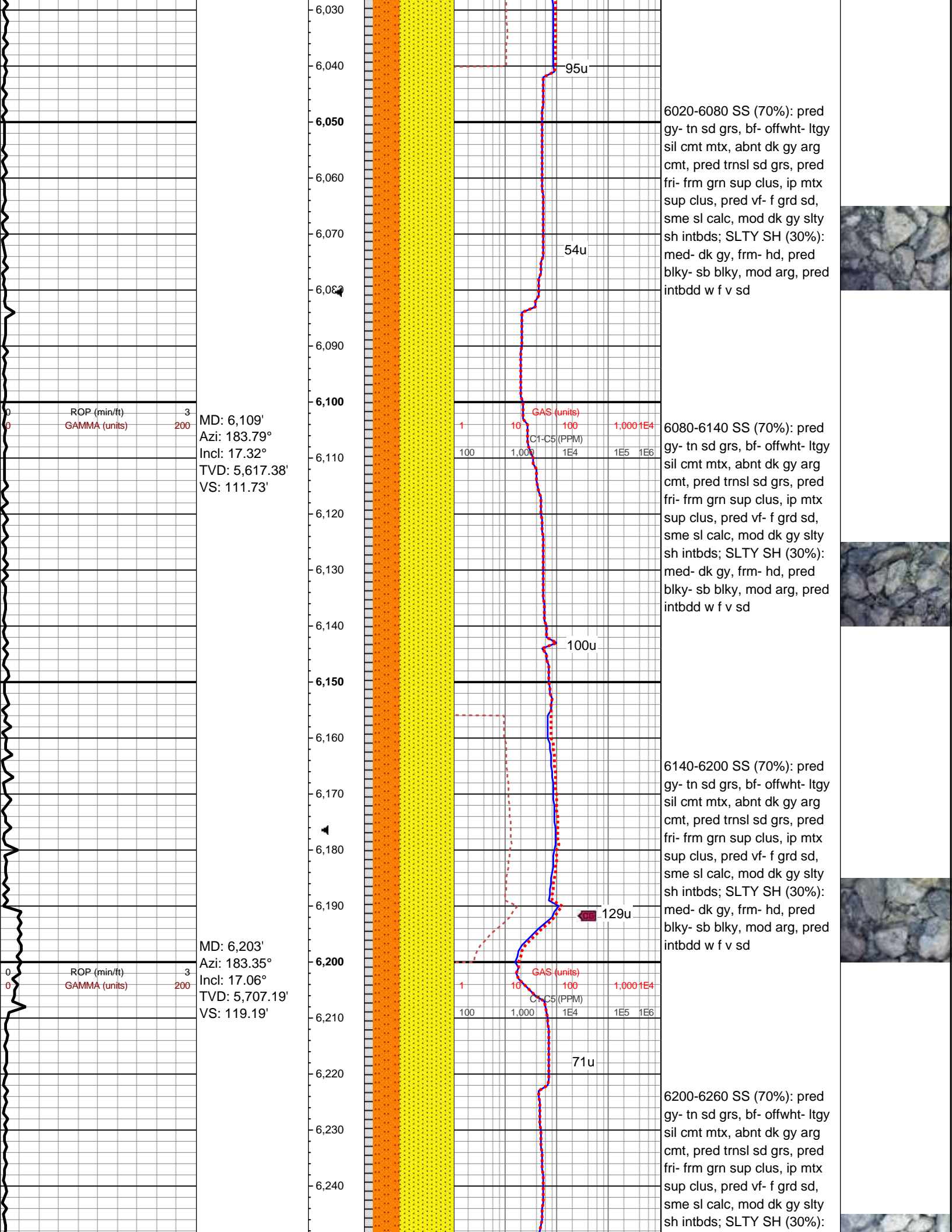


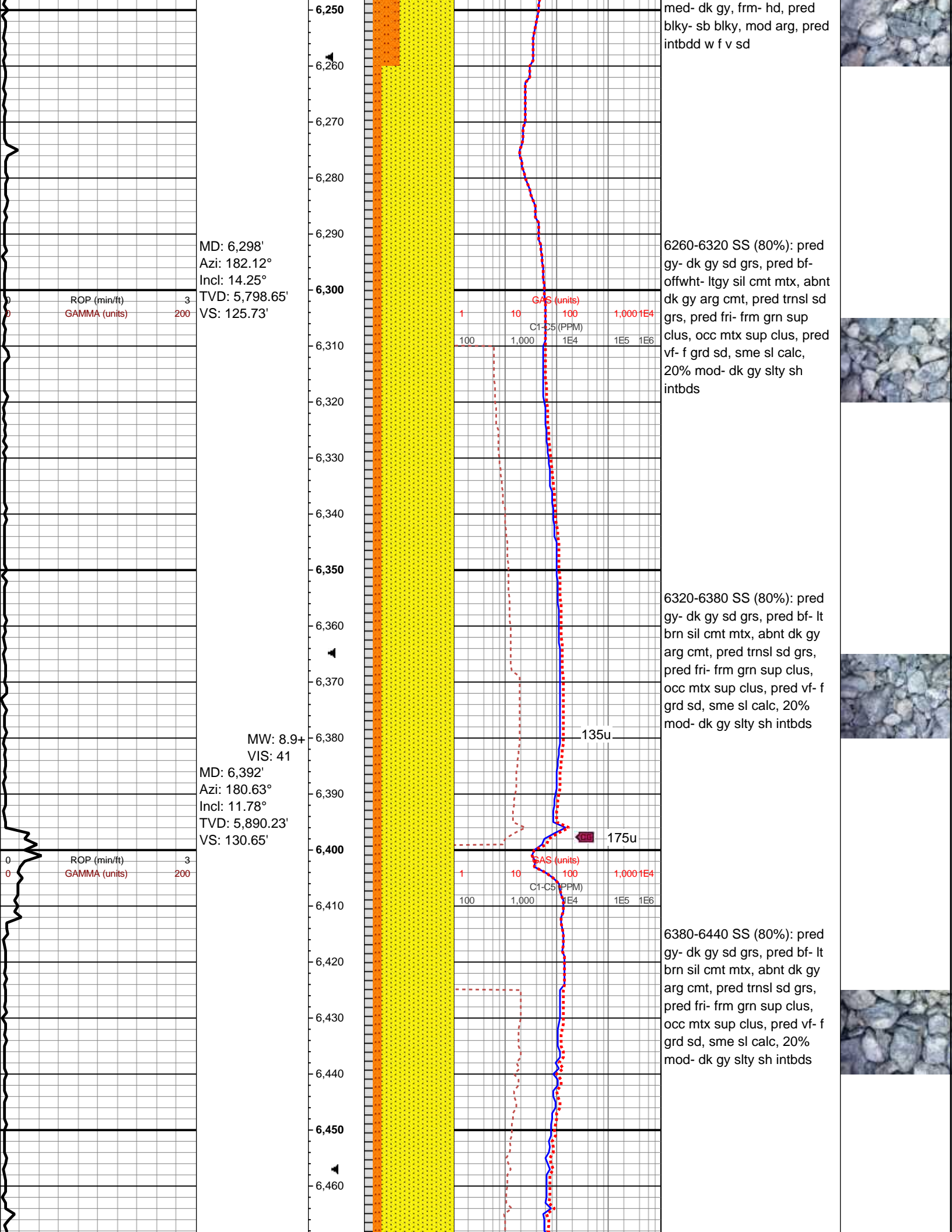


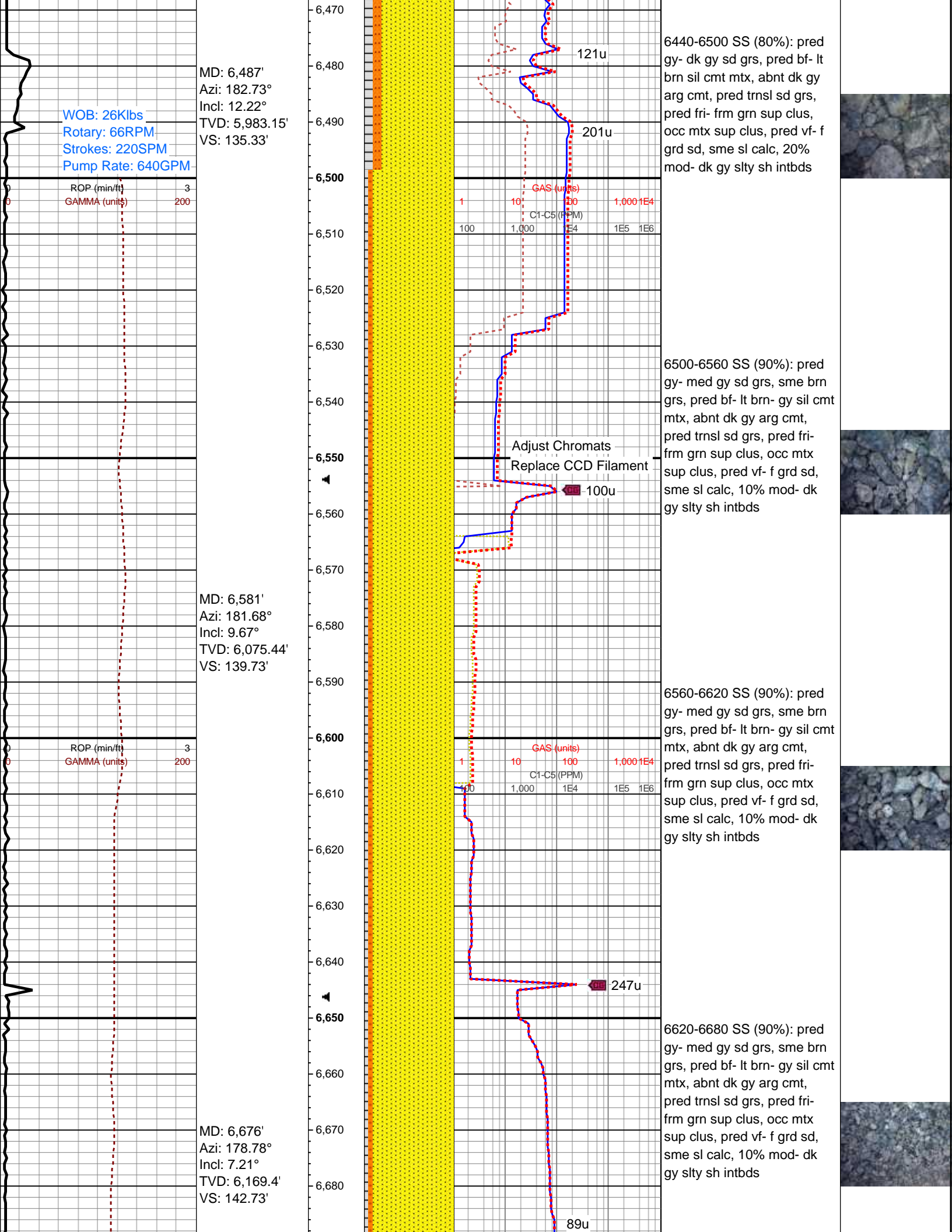


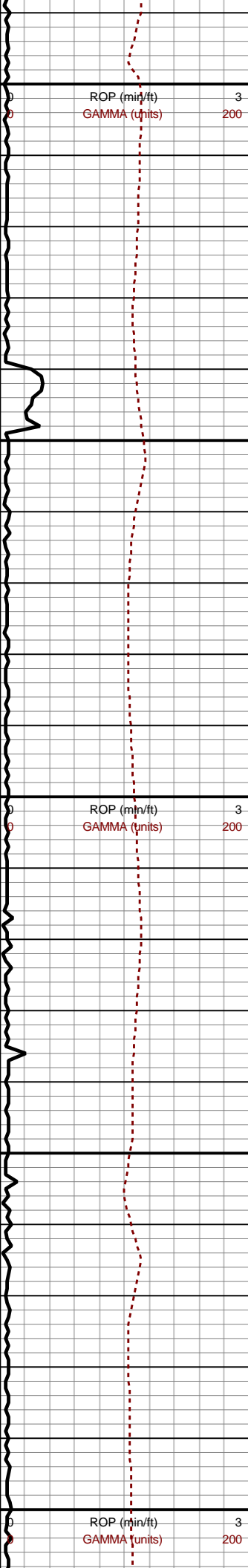






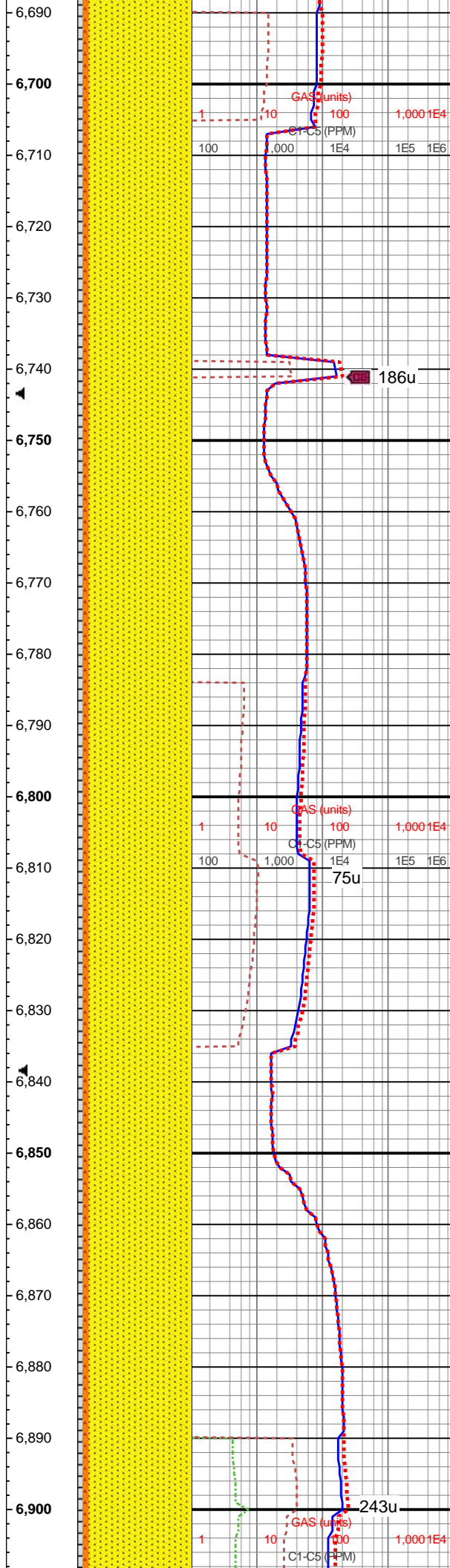






MD: 6,771'
Azi: 179.75°
Incl: 6.33°
TVD: 6,263.74'
VS: 144.91'

MD: 6,865'
Azi: 180.8°
Incl: 4.57°
TVD: 6,357.31'
VS: 146.8'



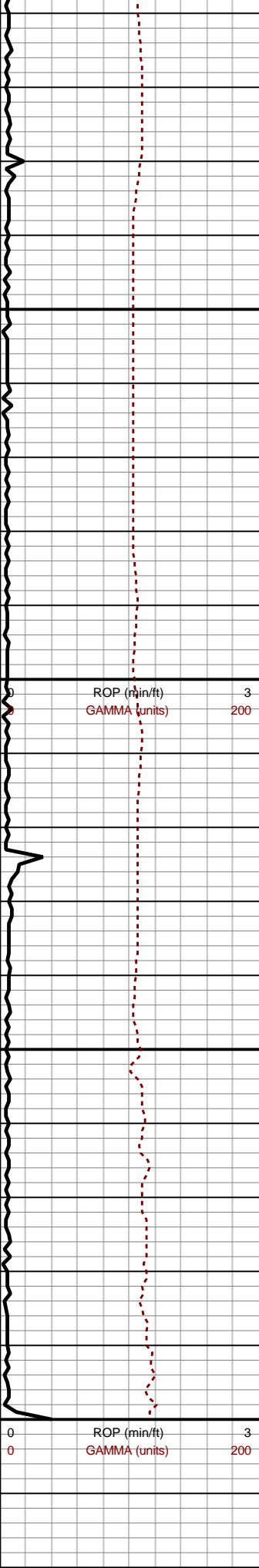
6680-6740 SS (90%): pred gy- med gy sd grs, sme brn grs, pred bf- lt brn- gy sil cmt mtx, abnt dk gy arg cmt, pred trnsd sd grs, pred fri-frm grn sup clus, occ mtx sup clus, pred vf- f grd sd, sme sl calc, 10% mod- dk gy slty sh intbds

6740-6800 SS (90%): pred gy- med gy sd grs, sme brn-tn, pred lt brn- dk gy sil cmt mtx, abnt dk gy arg cmt, pred trnsd sd grs, pred fri-frm grn sup clus, sme mtx sup clus, pred vf- f grd sd, sme sl calc, 10% mod- dk gy slty sh intbds- mtx

6800-6860 SS (90%): pred gy- med gy sd grs, sme brn-tn, pred lt brn- dk gy sil cmt mtx, abnt dk gy arg cmt, pred trnsd sd grs, pred fri-frm grn sup clus, sme mtx sup clus, pred vf- f grd sd, sme sl calc, 10% mod- dk gy slty sh intbds- mtx

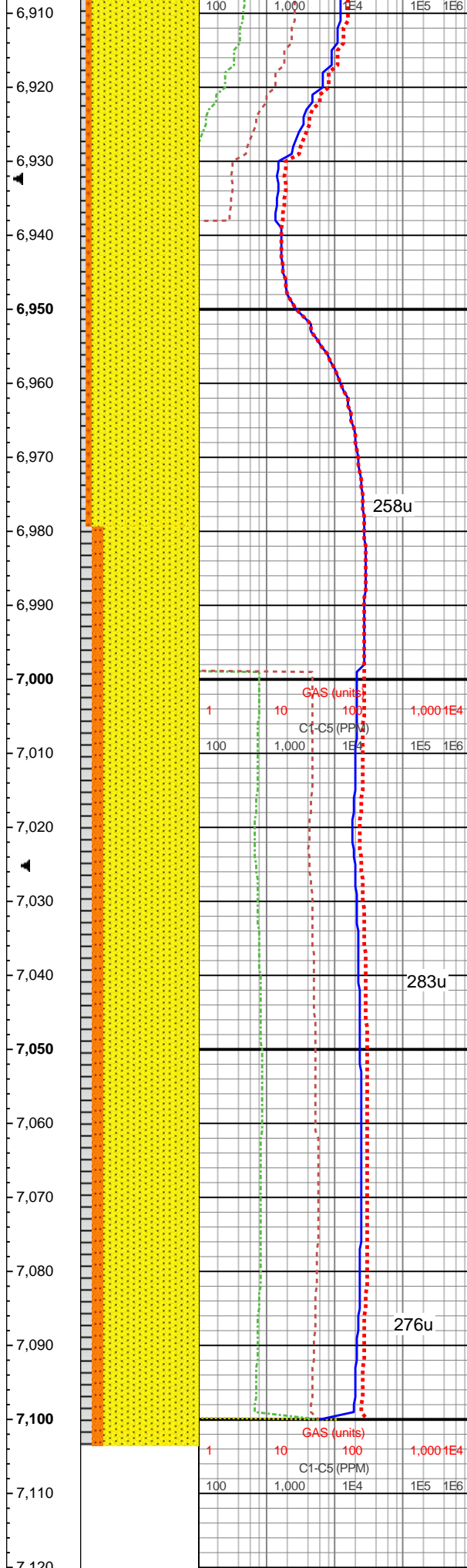
6860-6920 SS (90%): pred gy- med gy sd grs, sme brn-tn, pred lt brn- dk gy sil cmt mtx, abnt dk gy arg cmt, pred trnsd sd grs, pred fri-frm grn sup clus, sme mtx





MD: 6,960'
Azi: 187.31°
Incl: 2.73°
TVD: 6,452.11'
VS: 148.38'

MD: 7,054'
Azi: 192.32°
Incl: 1.67°
TVD: 6,546.04'
VS: 149.69'



sup clus, pred vf- f grd sd,
sme sl calc, 10% mod- dk
gy slty sh intbds- mtx

6920-6980 SS (90%): pred
gy- med gy sd grs, sme brn-
tn, pred lt brn- dk gy sil cmt
mtx, abnt dk gy arg cmt,
pred trnsl sd grs, pred fri-
frm grn sup clus, sme mtx
sup clus, pred vf- f grd sd,
sme sl calc, 10% mod- dk
gy slty sh intbds- mtx

6980-7040 SS (80%): pred
gy- brn sd grs, sme med gy-
tn, pred lt brn- dk gy sil cmt
mtx, abnt dk gy arg cmt,
pred trnsl sd grs, pred fri-
frm grn sup clus, sme mtx
sup clus, pred vf- f grd sd,
sme sl calc, 20% mod- dk
gy slty sh intbds- mtx

7040-7100 SS (80%): pred
gy- brn sd grs, sme med gy-
tn, pred lt brn- dk gy sil cmt
mtx, abnt dk gy arg cmt,
pred trnsl sd grs, pred fri-
frm grn sup clus, sme mtx
sup clus, pred vf- f grd sd,
sme sl calc, 20% mod- dk
gy slty sh intbds- mtx

Log Continued in
Horizontal Format