



Scale: 5" / 100'  
Measured Depth Log

**Well Name** HINER 36NB- 21W\_Vert\_Extraction

**Location** Sec 36 TO6N- R66W

**State** CO

**County** Weld

**Country** USA

**Rig Number** Xtreme7

**API Number** 05-123-37039-00

**Region** Rocky Mountain

**Field** Wattenberg

**Spud Date** 7/12/2014

**Surface Coordinates** N 1,407,499.13'  
E 3,217,330.36'  
Lat 40°26'57.696" N  
Long 104°43'8.724" W

**Ground Elevation** 4661'

**K.B. Elevation** 4677'

**Logged Interval** 4000' **To** 6400'

**Formation** Niobrara B

**Type of Drilling FL...** Water based mud

## Operator

**Company** Extraction Oil & Gas, LLC

**Address** 1888 Sherman St., Suite 500  
Denver, CO 80203

## Geologist

**Name** Hana Waldhauserova & Edward Knight

**Company** ALS Empirica

**Address** 6360 W Sam Houston Pkwy N  
Suite 100

## Other

Logging start date: 7/14/2014

Logging end date:  
2 man logging service ML-519

## Rock Types

UNKNOWN	CHALK	DOLOMITE	BRECCIA
SHALY SANDSTONE	MARLSTONE	CHERT	TILL
SANDSTONE	ANHYDRITE	CLAYSTONE	BENTONITE
SALT AND PEPPER SAN...	GYPSUM	SHALE GRAY	TUFF
SILTY SHALE	SALT	SHALE COLORED	IGNEOUS
SILTSTONE	SIDERITE or LIMONITE	CONGLOMERATE	METAMORPHIC
SHALE	LIMESTONE		CEMENT

## Accessories

### Fossils

ALGAE  
AMPHIPORA  
BELEMNITE  
BIOCLASTIC  
BRACHIOPOD  
BRYOZOA  
CEPHALOPOD  
CORAL  
CRINOID  
ECHINOID  
FISH  
FORAMINIFERA

### Fossil

GASTROPOD  
OOLITE  
OSTRACOD  
PELECYPOD  
PELLET  
PISOLITE  
PLANT REMAINS  
PLANT SPORES  
SCAPHOPOD  
STROMATOPOROID

### Minerals

ANHYDRITIC

### ARGILLACEOUS

ARGILLITE GRAIN  
BENTONITE  
BITUMENOUS SUBSTANCE  
BRECCIA FRAGMENTS  
CALCAREOUS  
CARBONACEOUS FLAKES  
CHTDK  
CHTLT  
COAL - THIN BEDS  
DOLOMITIC  
FELDSPAR  
FERRUGINOUS PELLET  
FERRUGINOUS

### GLAUCONITE

GYPSIFEROUS  
HEAVY MINERAL  
KAOLIN  
MARLSTONE  
MINERAL CRYSTALS  
NODULES  
PHOSPHATE PELLETS  
PYRITE  
SALT CAST  
SANDY  
SILICEOUS  
SILTY  
TUFFACEOUS

### Stringer

ANHYDRITE STRINGER  
BENTONITE STRINGER  
COAL STRINGER  
DOLOMITE STRINGER  
GYPSUM STRINGER  
LIMESTONE STRINGER  
MARLSTONE (CALC) STRG  
MARLSTONE (DOL) STRG  
SANDSTONE STRINGER  
SHALE STRINGER  
SILTSTONE STRINGER

## Other Symbols

### Oil Show

DEAD  
EVEN  
QUESTIONABLE  
SPOTTED STAINING

### Porosity

EARTHY  
FENESTRAL  
FRACTURE  
INTERCRYSTALLINE  
INTEROOLITIC  
MOLDIC

ORGANIC

PINPOINT

VUGGY

### Engineering

BIT  
CASING  
CONNECTION (LEFT)  
CONNECTION (RIGHT)  
CONNECTION GAS  
CORE - LOST  
CORE - RECOVERED  
DST INTERVAL  
FAULT

FORMATION TOP

GAS SHOW

MN DEPTH

NORMAL FAULT

OIL SHOW

OVERTURNED STRATA

REVERSE FAULT

SIDEWALL CORE (LEFT)

SIDEWALL CORE (RIGHT)

SLIDE

SURVEY

TRIP GAS

WIRELINE TESTED - LEFT

WIRELINE TESTED - RT

### Rounding

ANGULAR  
ROUNDED  
SUBANG  
SUBRND

### Textures

BOUNDSTONE  
CHALKY  
CRYPTOXLN  
EARTHY  
FINELYXLN  
GRAINSTONE

LITHOGRAPHIC

MIX MICROXLN

MUDSTONE

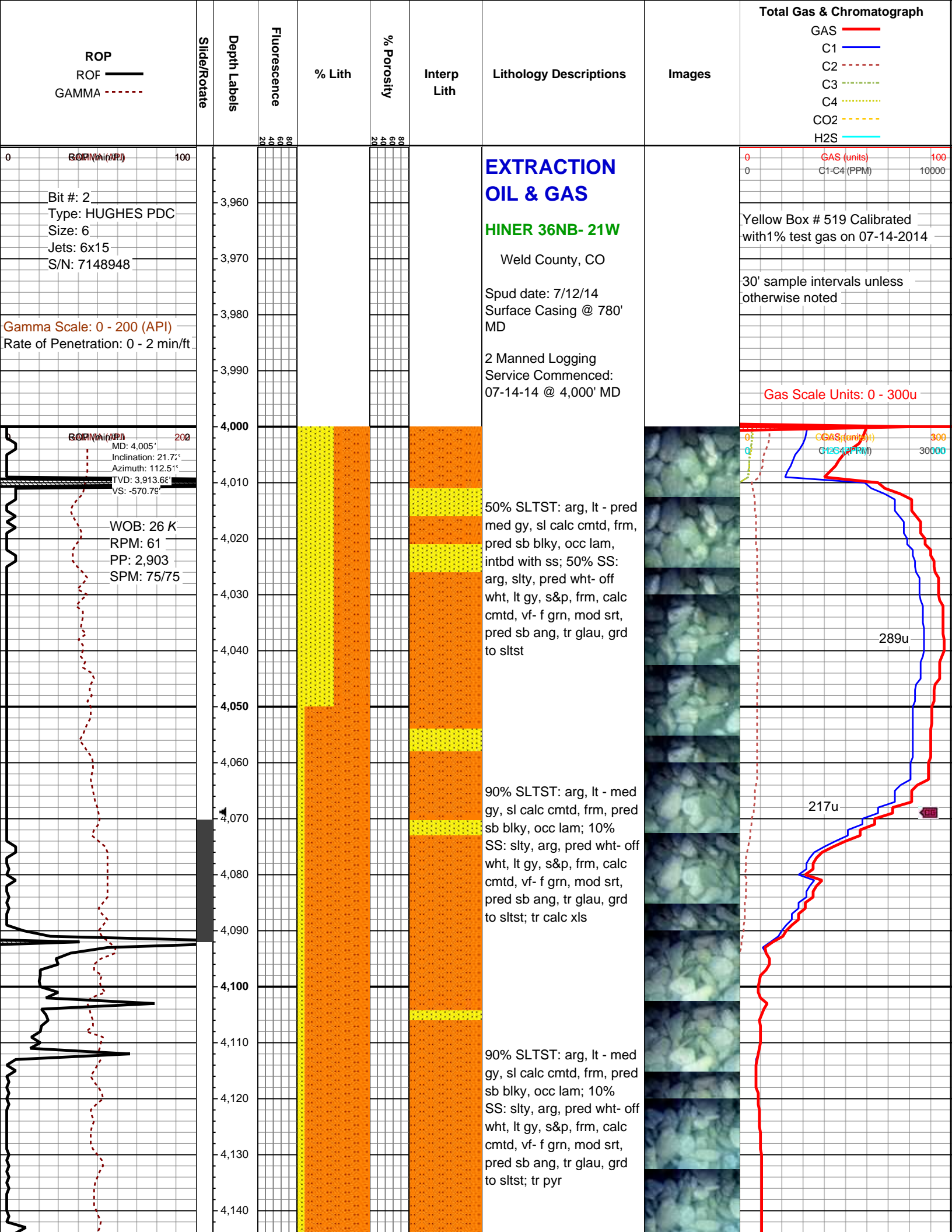
PACKSTONE

WACKESTONE

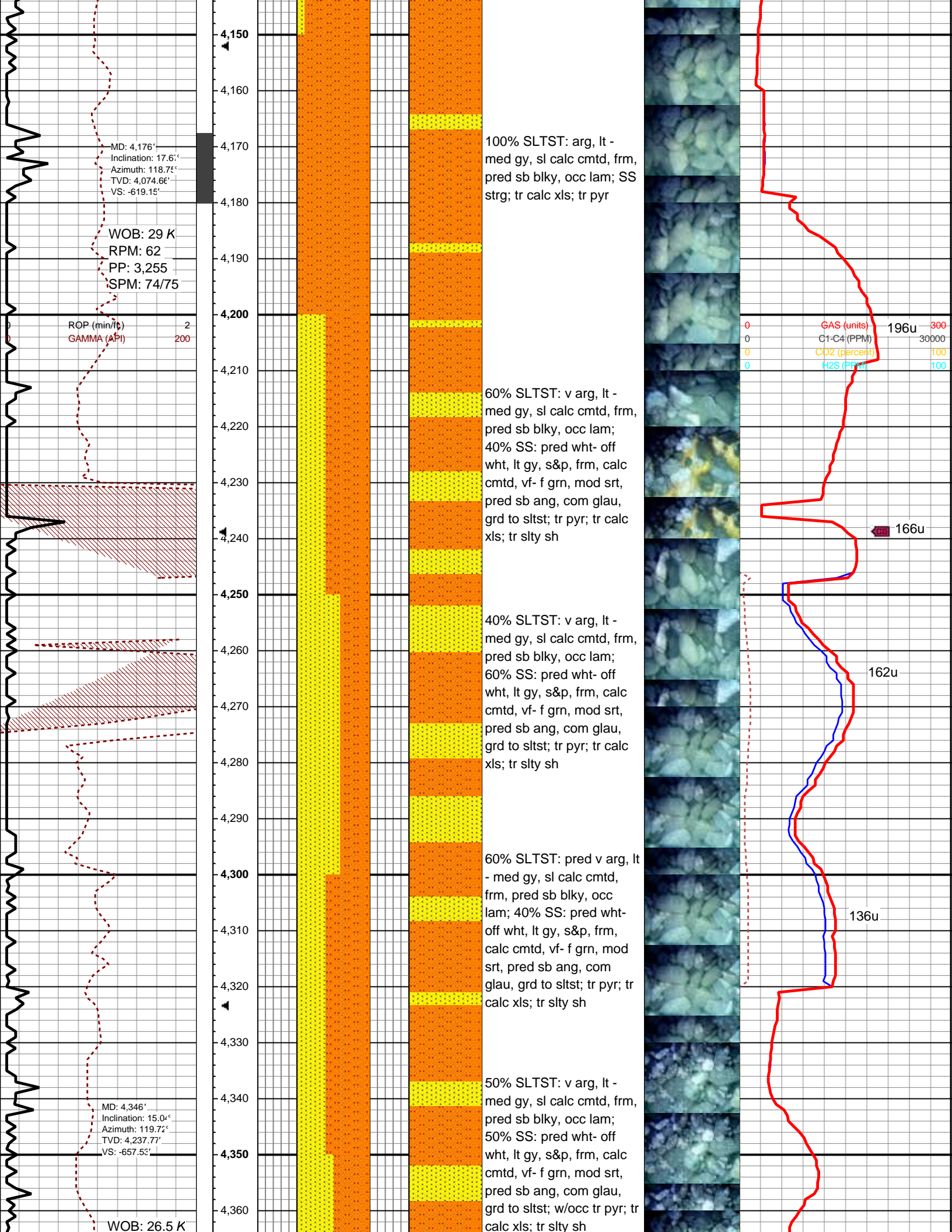
### Sorting

MODERATE  
POOR  
WELL

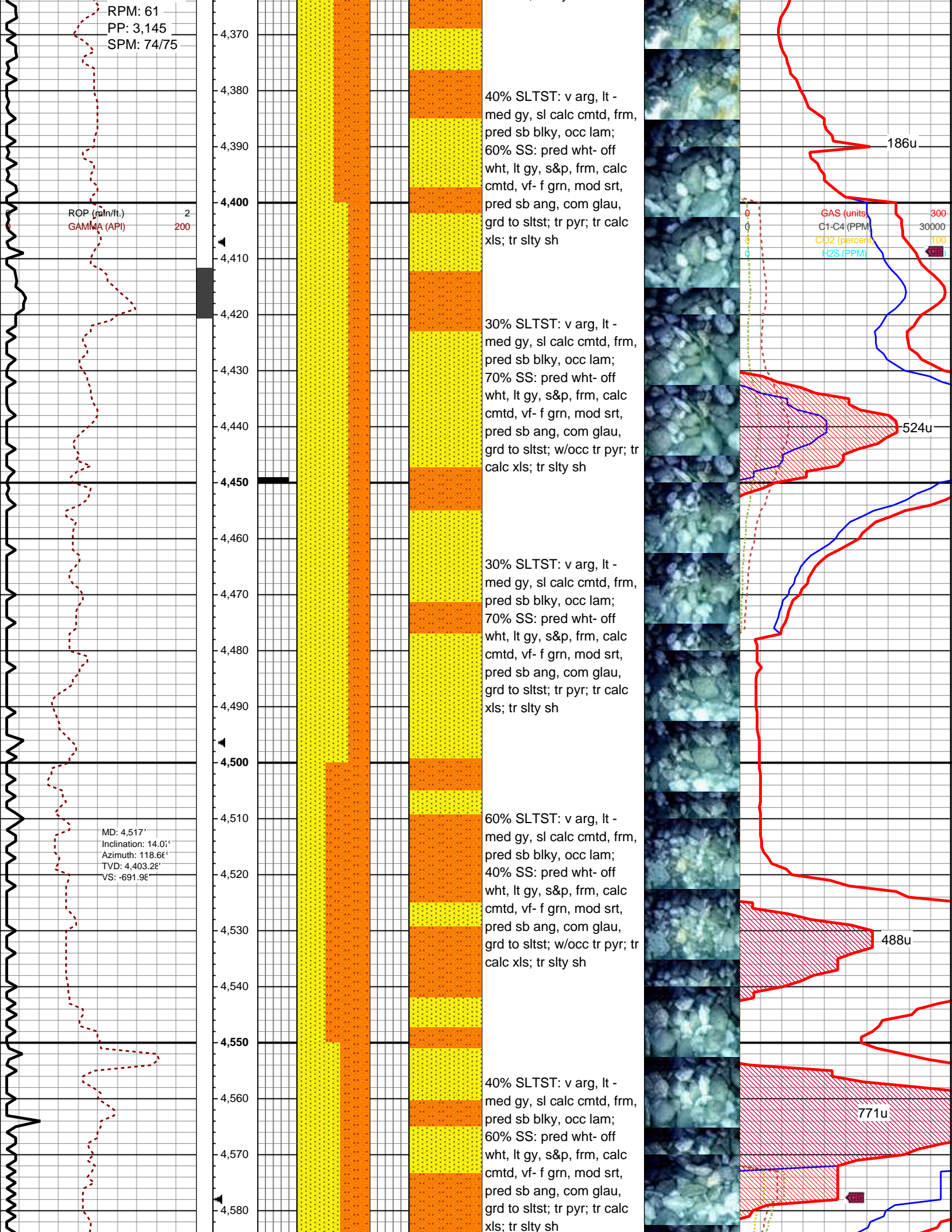




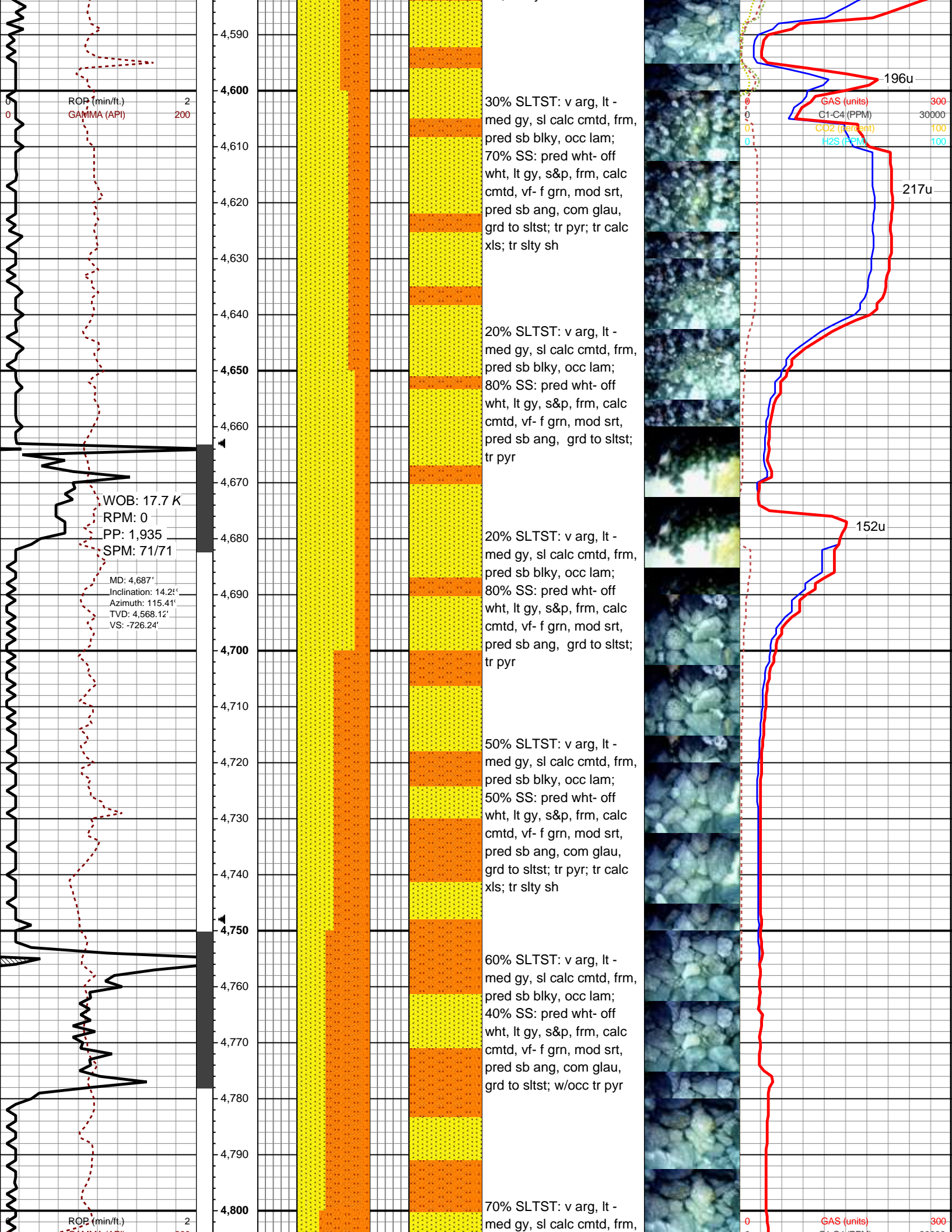




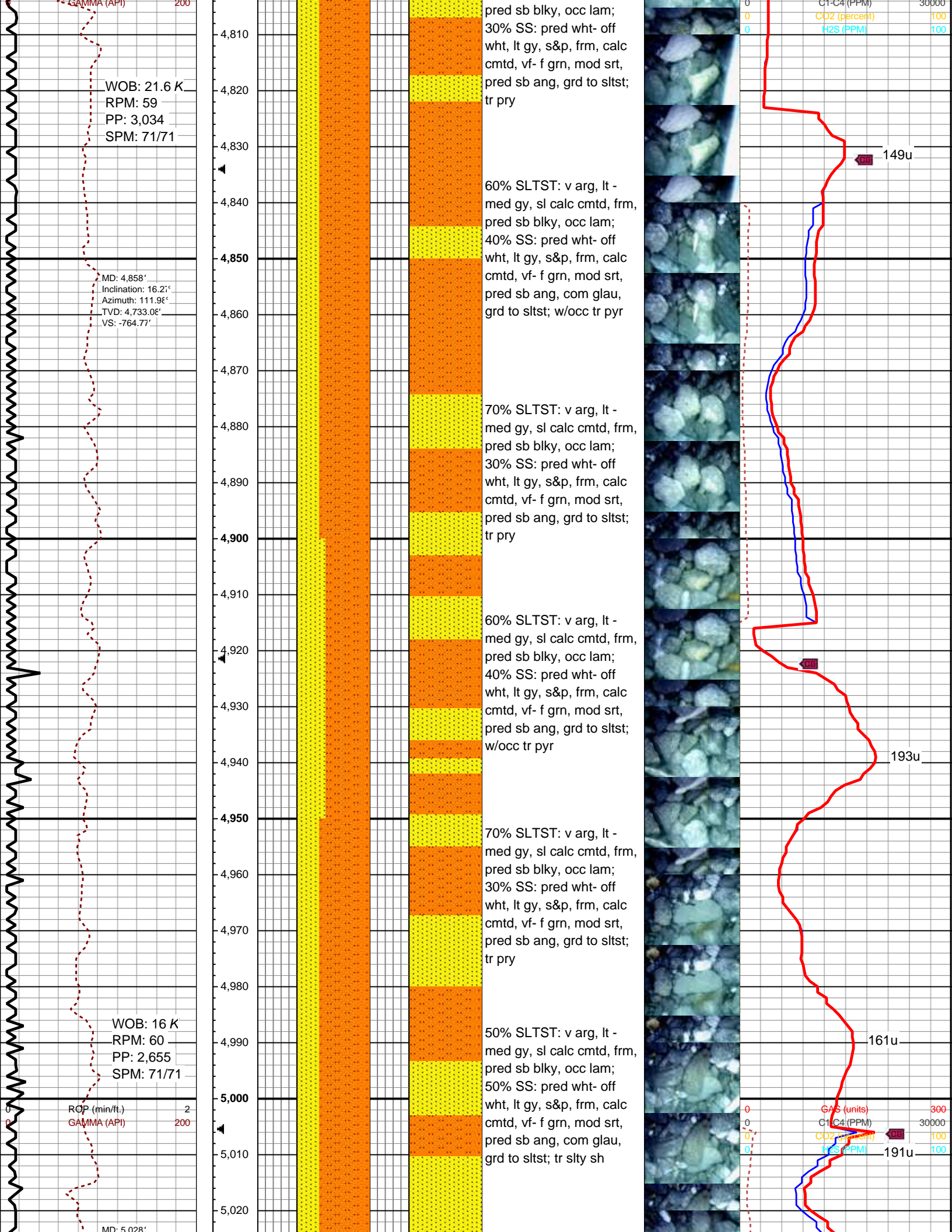




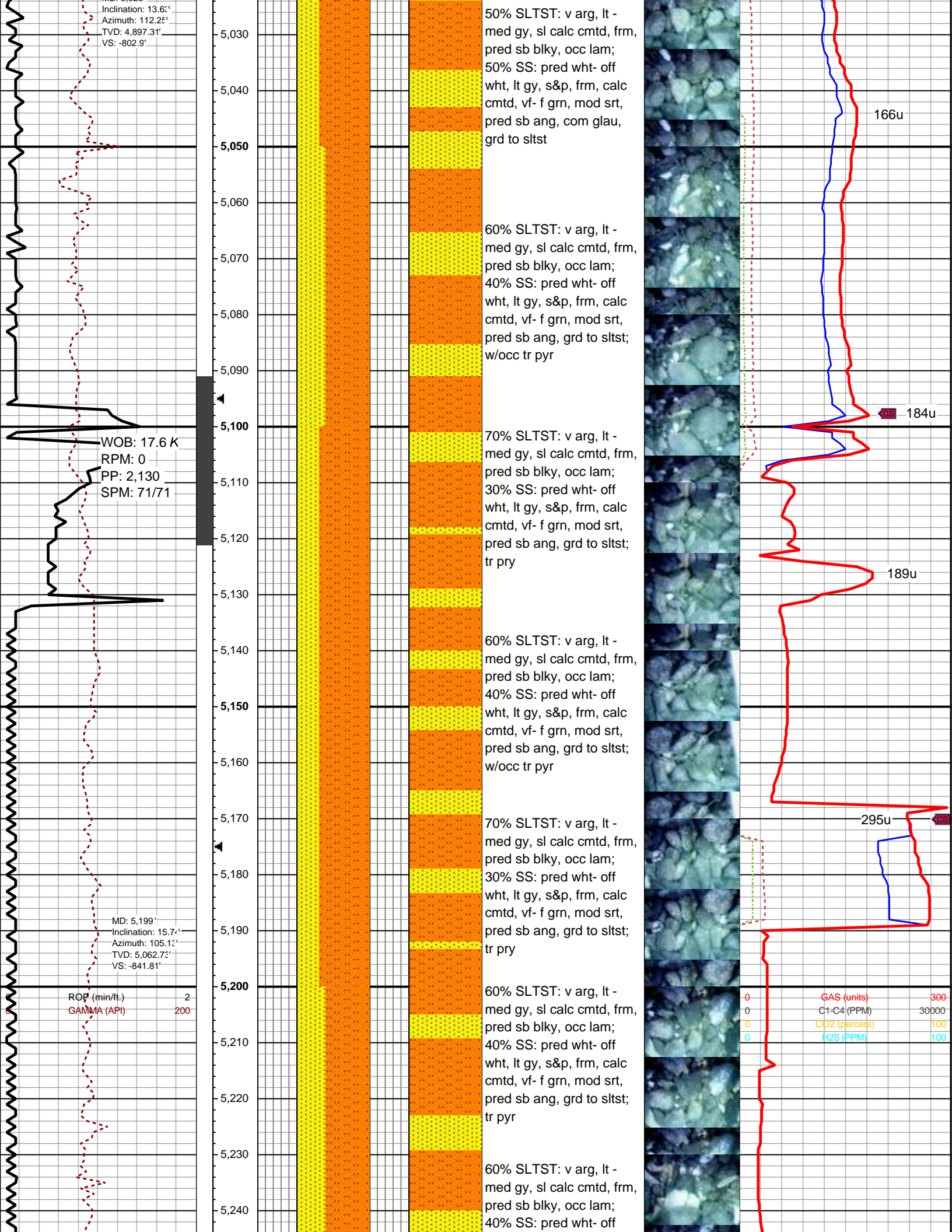




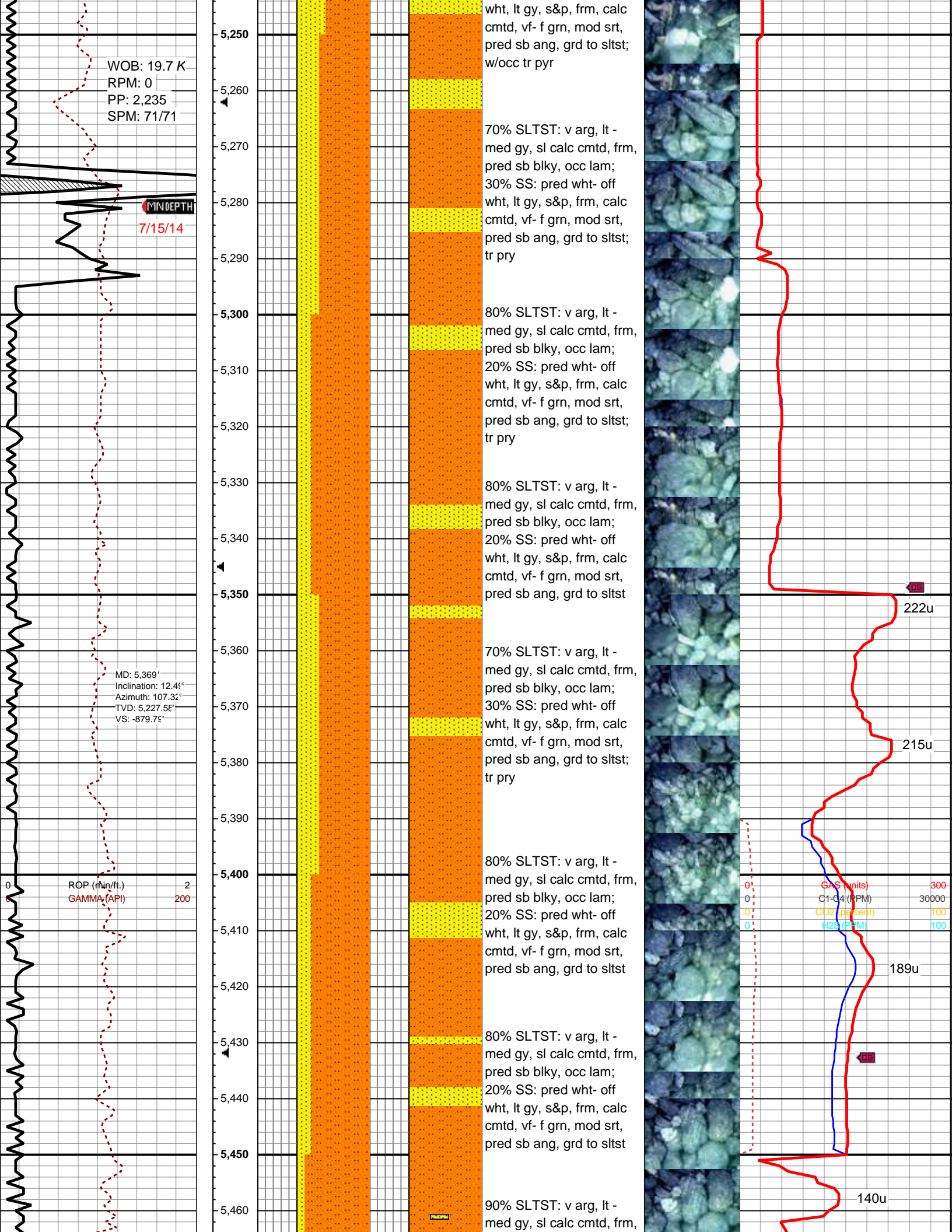




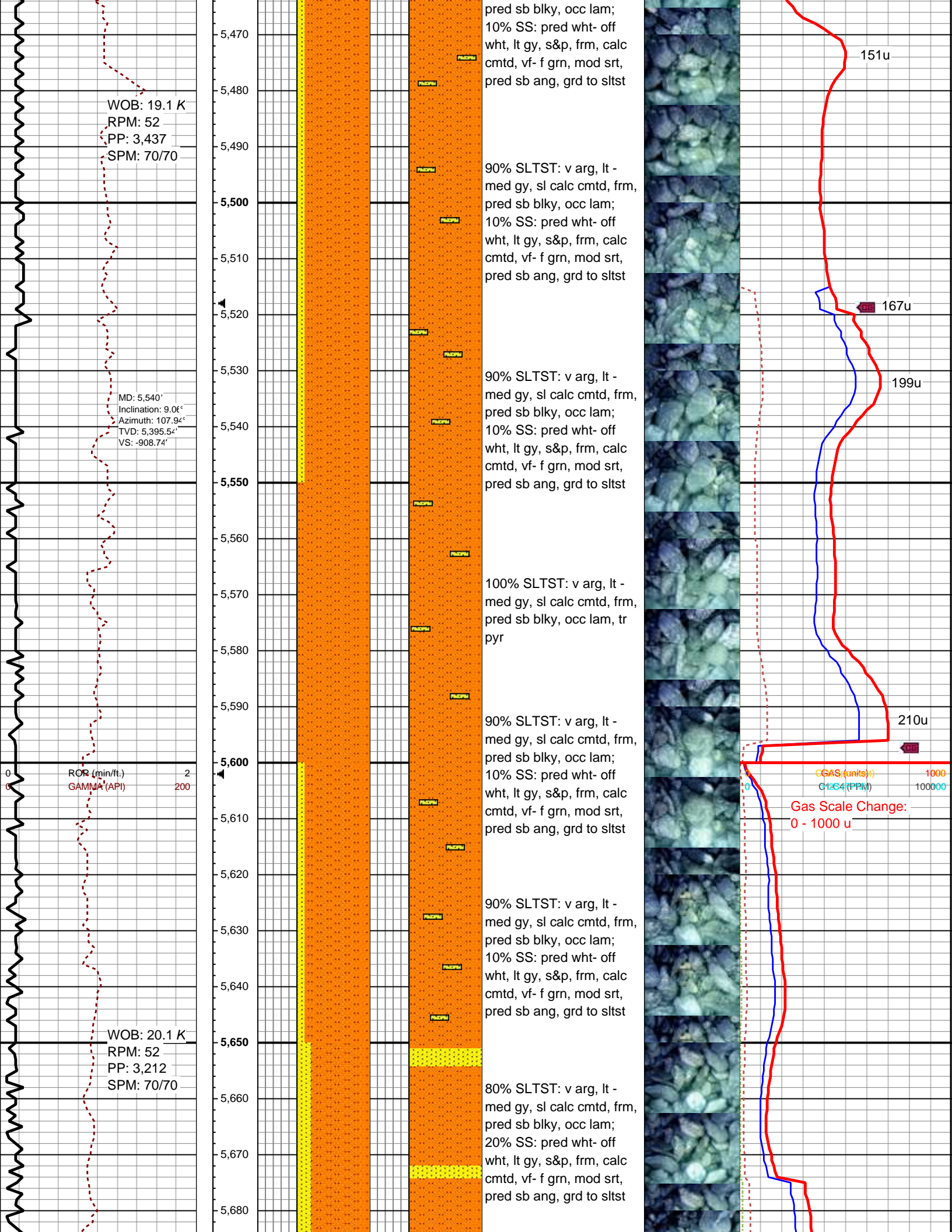




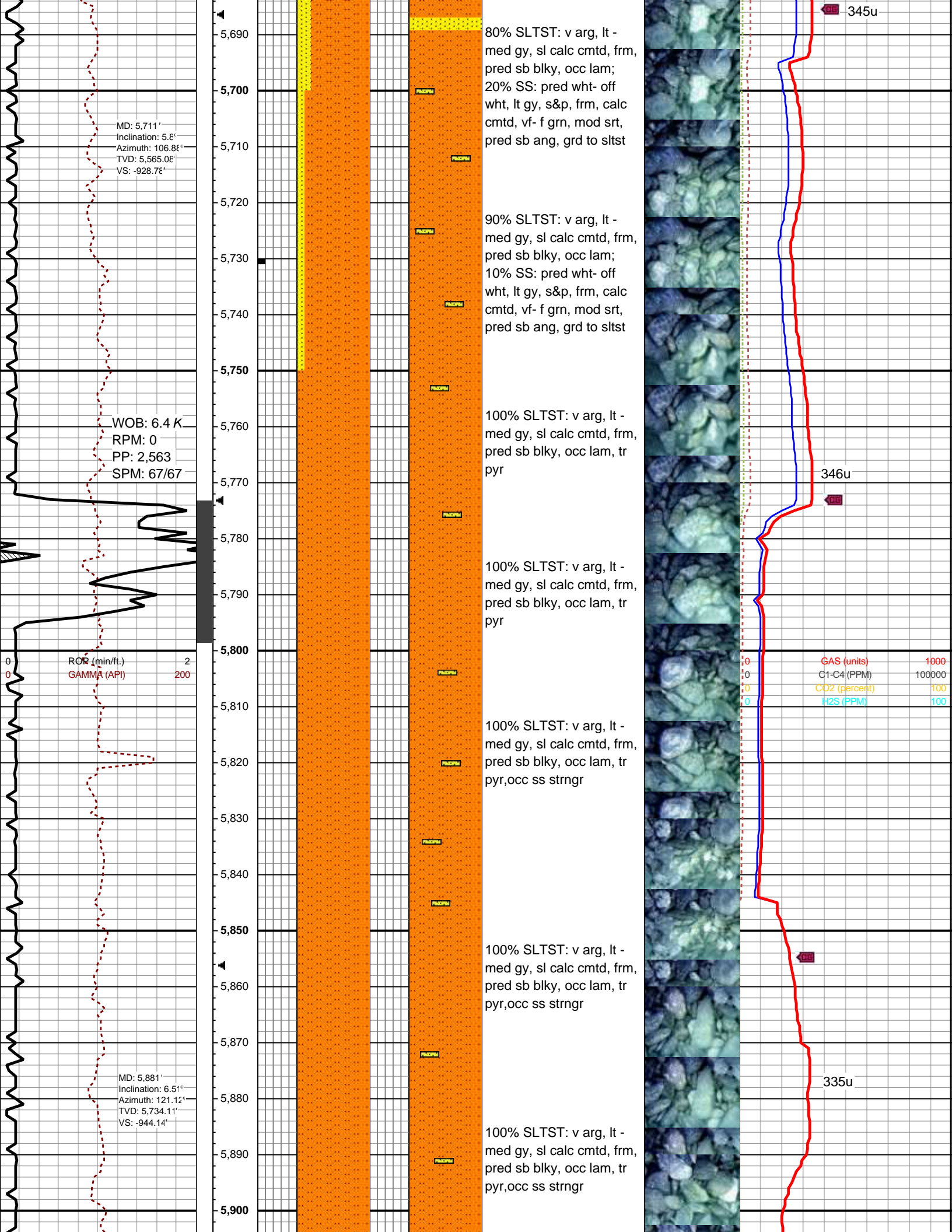


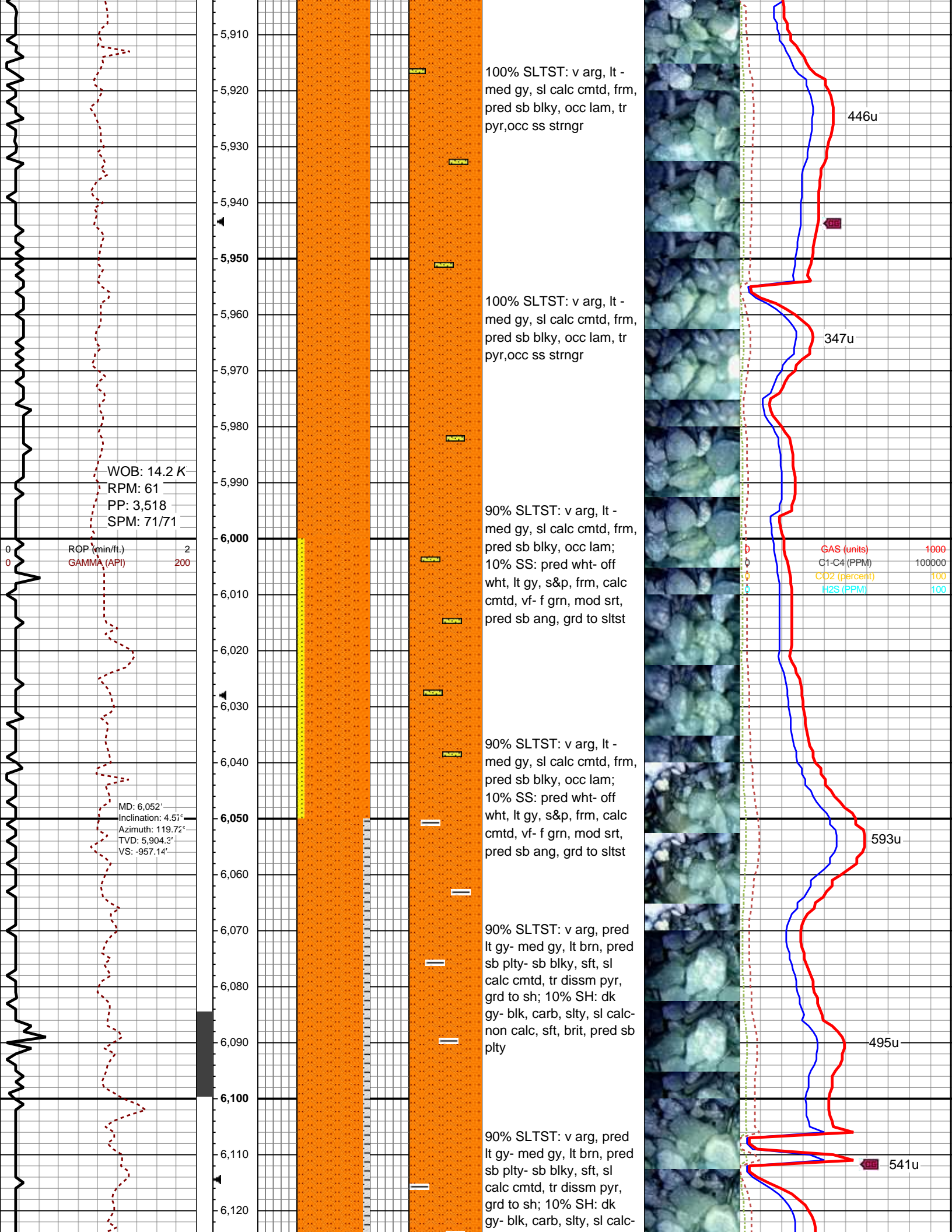




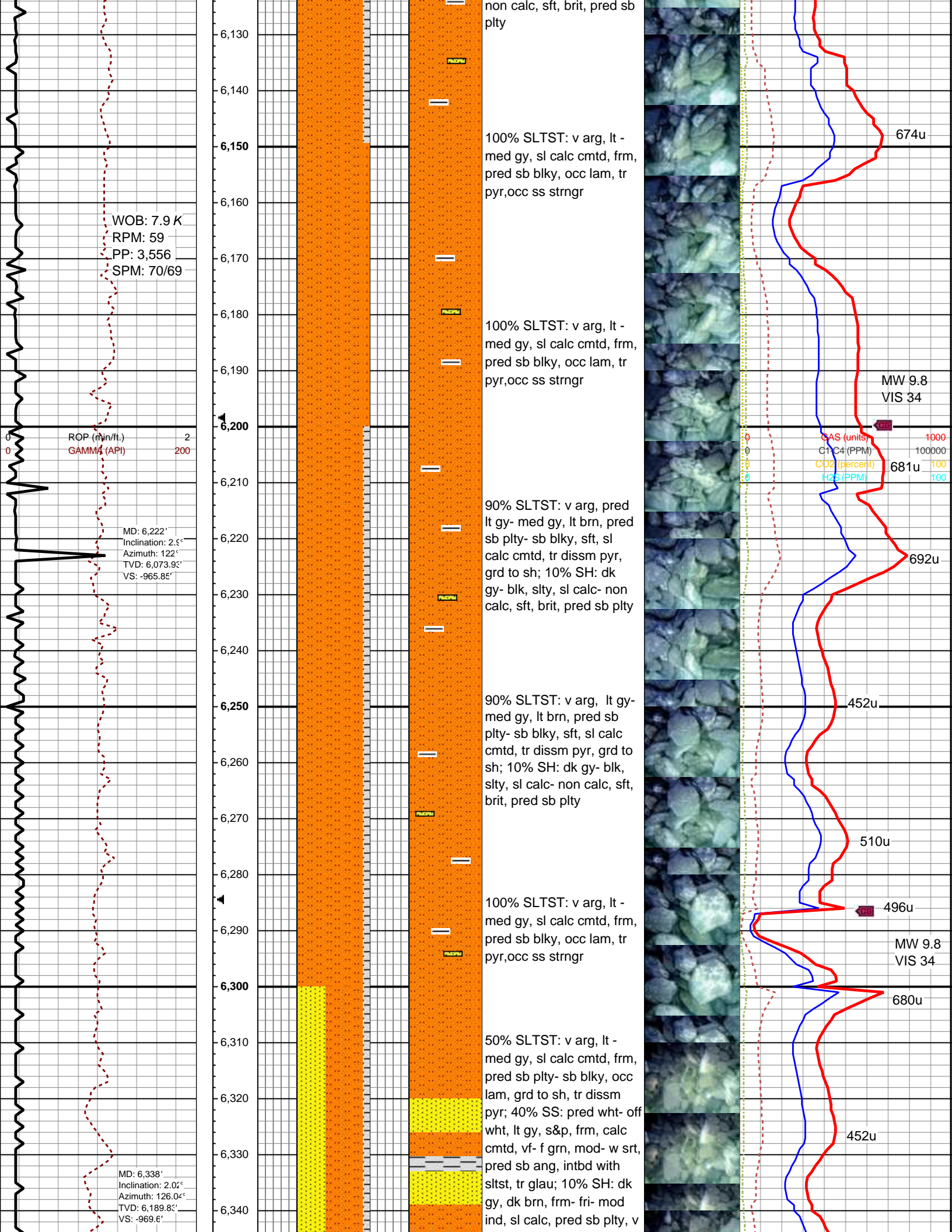




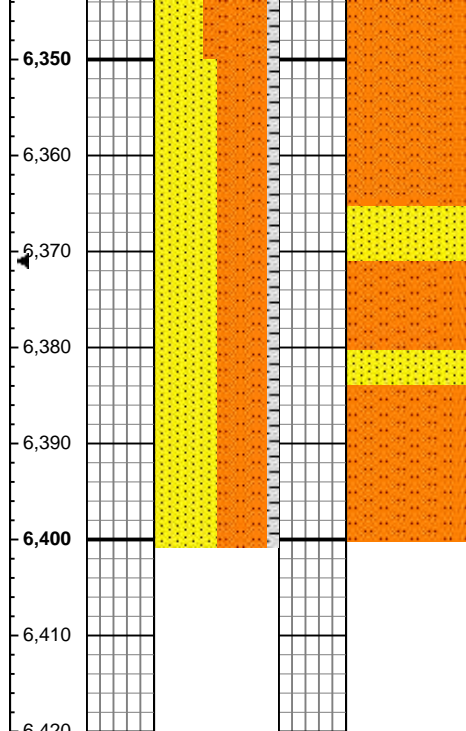
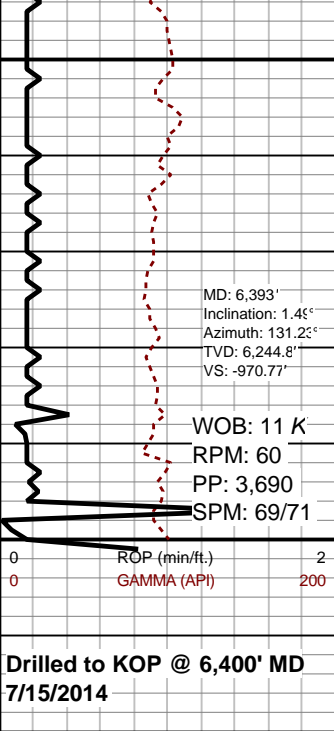












sly

40% SLTST: v arg, lt - med gy, sl calc cmt, frm, pred sb plty- sb blk, occ lam, grd to sh, tr diss pyr; 50% SS: pred wht- off wht, lt gy, s&p, frm, calc cmt, vf- f gm, mod- w srt, pred sb ang, intbd with sltst, tr glau; 10% SH: dk gy, dk brn, frm- fri- mod ind, sl calc, pred sb plty, v sly

Continue 2 manned Logging Using Lateral Mplot Version

