



Scale: 2" / 100'
Measured Depth Log

Well Name BEF West 19

Location Section 2, Township 1S, Range 66W

State Colorado

County Adams

Country USA

Rig Number True 33

API Number 05-001-10209

AFE # 10209

Geographic Region Rockies

Field Wattenberg

Spud Date 12/23/2018

Drilling Completed 2/6/2019

Surface Coordinates 2008' FNL & 321' FEL, Sec. 2, T1S, R66W
Latitude: 39.99481, Longitude: -104.7347

Bottom Hole Coordinates 1065' FNL & 460' FWL, Sec. 2, T1S, R66W

Ground Elevation 5,049'

K.B. Elevation 5,076'

Logged Interval 5,000' **To** 7,930'

Total Depth 12,244'

Formation Niobrara B

Type of Drilling Fluid Water Based Mud

Operator

Company Petro Operating Company, LLC

Address 9033 East Easter Place, Suite 112
Centennial, CO 80112-2105

**Petro  perating
Company, LLC**

Geologist

Name Michael Domenick

Company Petro Operating Company, LLC

Address 9033 East Easter Place, Suite 112
Centennial, CO 80112-2105

Zone Color Coding

 Oil	 Condensate	 Gas
 Note	 Core	 Pressure
 Error	 Water	 Seal

Petro perating Company, LLC

Other

Loggers: Byron Pitulski/Greg Diefenbach

Services Provided: 2 Man Logging, Geosteering

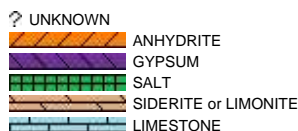
Equipment: ML-585

Start Date 02/02/2019

Release Date: 02/06/2019

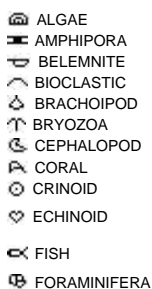
Job #: 1952RK1902

Rock Types



Accessories

Fossils



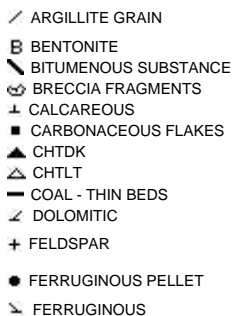
Fossil



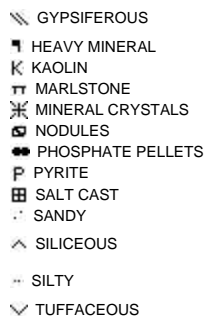
Minerals



Argillaceous



Glaucconite

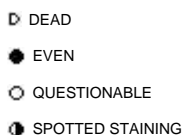


Stringer



Other Symbols

Oil Show



Porosity



Organic



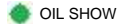
Vuggy



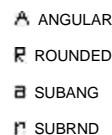
Engineering



Formation Top



Rounding



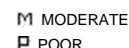
Textures



Lithographic



Sorting



E EARTH
F FENESTRAL
F FRACTURE
X INTERCRYSTALLINE
Φ INTEROOLITIC
M MOLDIC

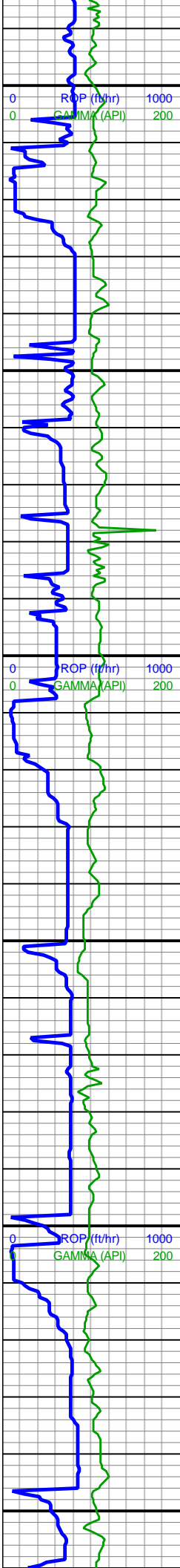
CONNECTION (RGH)
CORE - LOST
CORE - RECOVERED
DST INTERVAL
FAULT

SLIDE
SURVEY
TRIP GAS
WIRELINE TESTED - LEFT
WIRELINE TESTED - RT

CHALKSTONE
CHALKY
CRYPTOXLN
E EARTHY
FINELYXLN
GRAINSTONE

W WELL

	Slide/Rotate	Depth Labels	Notes	% Lith	Total Gas GAS — C1 — C2 — C3 — C4 — C5 —	Lithology Descriptions	Images
Petro Operating Co. BEF West 19		4,900					
9 5/8' Surface Casing @ 1,545'		4,920					
Spud Date: 12/23/2018		4,940	Bit #: 5 Type: TK56 Size: 8.5 Depth In: 3,049' Depth Out: 8,417' Hours: 38 hrs Avg Ft/Hr: 141 /hr Jets: 7x13 S/N: A248784		Loggers GD - Greg Diefenbach BP - Byron Pitulski		
2 Man Logging Began 02/02/2019		4,960					
All Depths Correspond to Driller's Pipe Tally		4,980			System Calibrated 1% Methane = 100 Units 100% Methane = 10000 Units		
0 1000 ROP (ft/hr) GAMMA (API)		5,000	BP				
		5,020	MW IN: 8.7 VIS IN: 26 MW OUT: 8.7 VIS OUT: 27				
		5,040	MD: 5,080' INC: 15.1° AZM: 24.8° TVD: 4,972.65' VS: -237.85'				
		5,060					
		5,080					
		5,100					
		5,120					
		5,140	MD: 5,175' INC: 14.9° AZM: 23.4° TVD: 5,064.42' VS: -242.76'				
		5,160					
		5,180					
		5,200	WOB: 20klbs RPM: 60 SPM: 171 SPP: 2,305psi				
0 1000 ROP (ft/hr) GAMMA (API)		5,220	MW IN: 8.7 VIS IN: 26 MW OUT: 8.8 VIS OUT: 26				
		5,240	MD: 5,269' INC: 15.3° AZM: 30.6° TVD: 5,155.18' VS: -248.85'				
		5,260					
		5,280					
		5,300					
		5,320					
		5,340					
		5,360	MD: 5,364' INC: 13.7° AZM: 28.5°				



TVD: 5,247.15'
VS: -255.81'

WOB: 20klbs
RPM: 61
SPM: 5,275
SPP: 2,376psi

MD: 5,458'
INC: 14.4°
AZM: 28.8°
TVD: 5,338.34'
VS: -262.12'

MW IN: 8.7
VIS IN: 26
MW OUT: 8.7
VIS OUT: 26

GD

MD: 5,552'
INC: 12.9°
AZM: 25.8°
TVD: 5,429.68'
VS: -267.78'

WOB: 23klbs
RPM: 61
SPM: 172
SPP: 2,341psi

MD: 5,646'
INC: 14.2°
AZM: 31.1°
TVD: 5,521.07'
VS: -273.83'

MW IN: 8.8
VIS IN: 26
MW OUT: 8.8
VIS OUT: 27

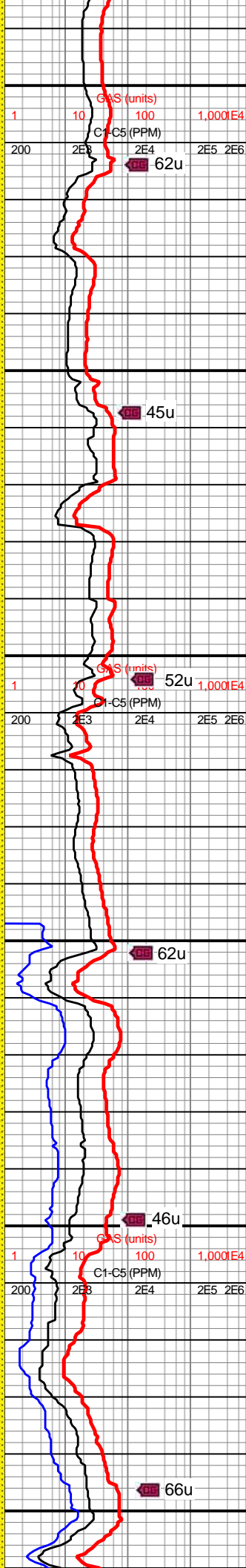
MD: 5,741'
INC: 13.5°
AZM: 29.2°
TVD: 5,613.31'
VS: -280.7°

WOB: 16.5klbs
RPM: 0
SPM: 171
SPP: 1,575psi

MIN DEPT 02/03/2019

MD: 5,836'
INC: 12.7°
AZM: 36.2°
TVD: 5,705.84'
VS: -288.05'

MD: 5,931'



GCS (units)

C1-C5 (PPM)

62u

45u

GCS (units)

C1-C5 (PPM)

52u

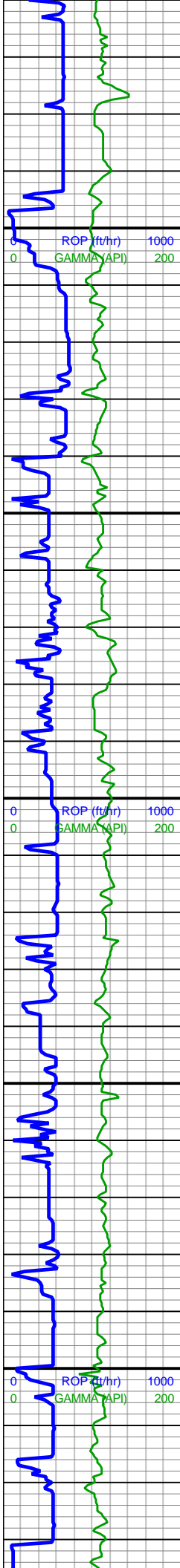
62u

GCS (units)

C1-C5 (PPM)

46u

66u



INC: 11°
AZM: 32.3°
TVD: 5,798.81'
VS: -295.28'

WOB: 23.2klbs
RPM: 0
SPM: 171
SPP: 1,583psi

MD: 6,025'
INC: 10.7°
AZM: 38.1°
TVD: 5,891.13'
VS: -302.06'

MD: 6,120'
INC: 9.4°
AZM: 37.1°
TVD: 5,984.67'
VS: -309.08'

MW IN: 9.7
VIS IN: 31
MW OUT: 9.7
VIS OUT: 30

WOB: 18.7klbs
RPM: 60
SPM: 170
SPP: 2,407psi

MD: 6,214'
INC: 8.5°
AZM: 33.6°
TVD: 6,077.53'
VS: -314.75'

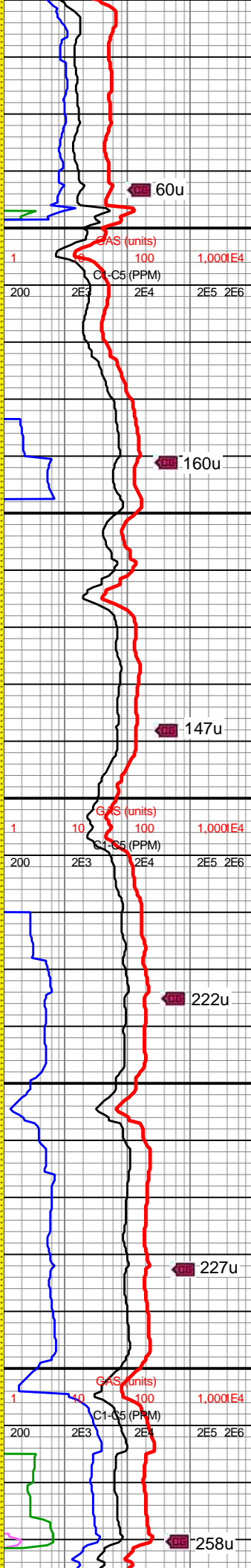
MD: 6,308'
INC: 7.4°
AZM: 29°
TVD: 6,170.63'
VS: -318.95'

MW IN: 9.7
VIS IN: 31
MW OUT: 9.7
VIS OUT: 30

WOB: 21.3klbs
RPM: 60
SPM: 170
SPP: 2,586psi

MD: 6,403'
INC: 6.2°
AZM: 25.1°
TVD: 6,264.96'
VS: -321.79'

MW IN: 9.9
VIS IN: 33
MW OUT: 9.7



60u

160u

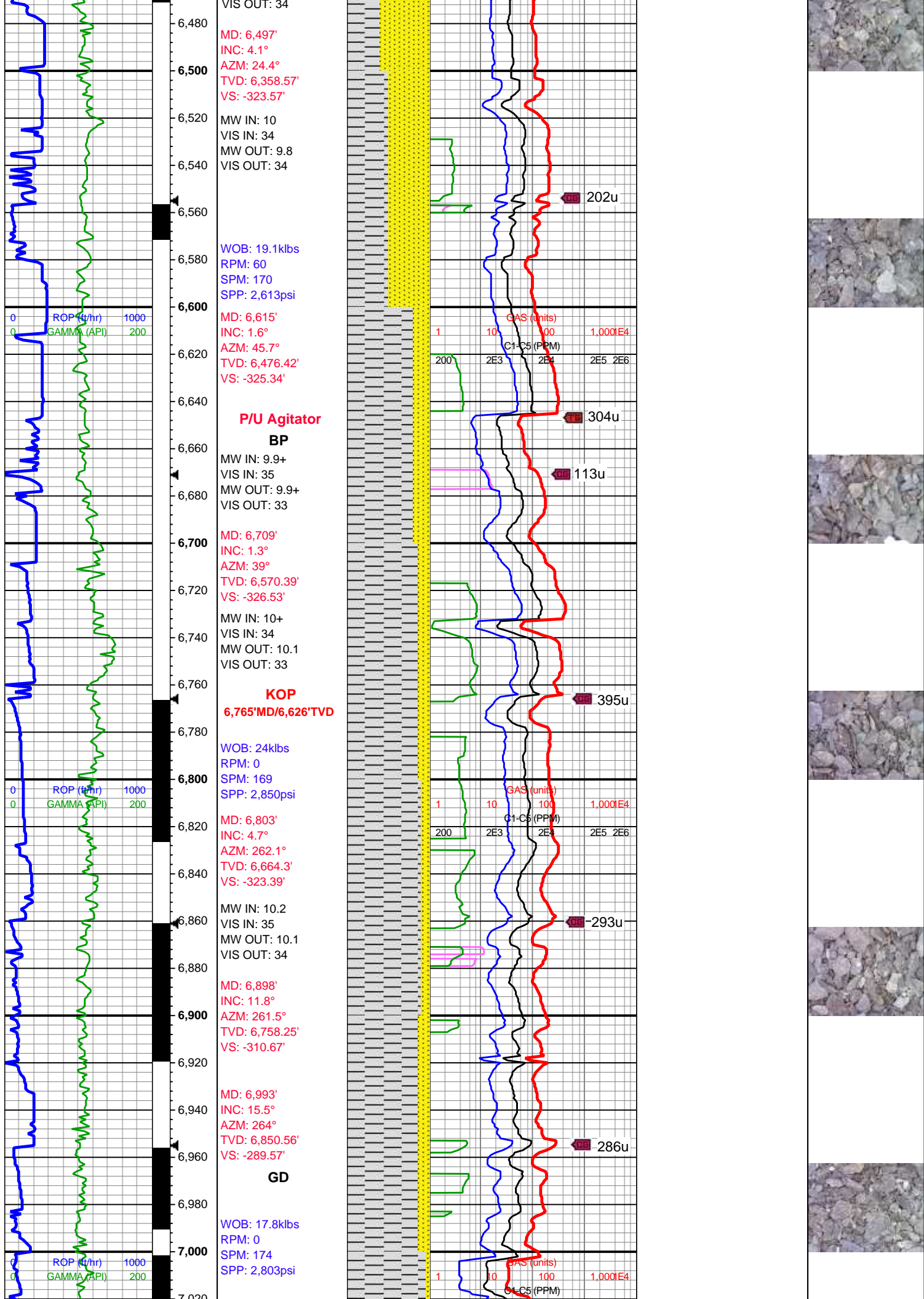
147u

222u

227u

258u





MD: 7,561'
INC: 65.2°
AZM: 268.4°
TVD: 7,274.13'
VS: 51.97'

