BLANCO

Geological Services LLC

Scale 1:240 (5"=100') Imperial

Well Name:	Butch 33-10Tr		
Location:	NW/SE Sec 10 , T33S, R67W		
Licence Number:	05-071-08649-00	Region:	Spanish Peaks
Spud Date:	01/12/06	Drilling Completed:	01/13/06
Surface Coordinates:	2309' FSL 1337' FWL		
Bottom Hole Coordinates:			
Ground Elevation (ft):	7571'	K.B. Elevation (ft):	7575'
Logged Interval (ft):	628' To: 1575'	Total Depth (ft):	1575'
Formation:	Raton/Vermejo/Trinidad		
Type of Drilling Fluid:	Air/Mist		

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

CORE

Contractor:			
Core #:			
Formation:			
Core Interval:	From:	Cut:	
	To:	Recovered:	
Bit type:			
Size:			
Coring Time:			

OPERATOR

Company: Pioneer Natural Resouces USA Inc.
Address: 1401 17th Street Suite 1200
Denver CO 80202

GEOLOGIST

Name: Kristopher Alworth, Lejon Gutierrez
Company: BLANCO Geological Services LLC
Address: 806 Robinson
Trinidad CO 81020
(719) 846-6433

Rig

Pense Drilling Rig #22

Comments

8 5/8" #24 Surface Casing set to 627.57'

ROCK TYPES

Anhy, Bent, Brec, Cht, Clyst, Coal, Congl, Dol, Gyp, Igne, Lmst, Meta, Mrlst, Salt, Shale, Shcol, Shgy, Sltst, Ss, Till

ACCESSORIES

MINERAL: Anhy, Arggrn, Arg, Bent, Bit, Brecfrag, Calc, Carb, Chtdk, Chtlt, Dol, Feldspar, Ferrpel, Ferr, Glau, Gyp, Hvymin, Kaol, Marl, Minxl, Nodule, Phos, Pyr, Salt, Sandy, Silt, Sil, Sulphur, Tuff

FOSSIL: Algae, Amph, Belm, Bioclst, Brach, Bryozoa, Cephal, Coral, Crin, Echin, Fish, Foram, Fossil, Gastro, Oolite, Ostra, Pelec, Pellet, Pisolite, Plant, Strom

STRINGER: Anhy, Arg, Bent, Coal, Dol, Gyp, Ls, Mrst, Sltstrg, Ssstrg

TEXTURE: Boundst, Chalky, Cryxln, Earthy, Finexln, Grainst, Lithogr, Microxln, Mudst, Packst, Wackest

OTHER SYMBOLS

POROSITY TYPE: Earthy, Fenest, Fracture, Inter, Moldic, Organic, Pinpoint, Vuggy

SORTING: Well, Moderate, Poor

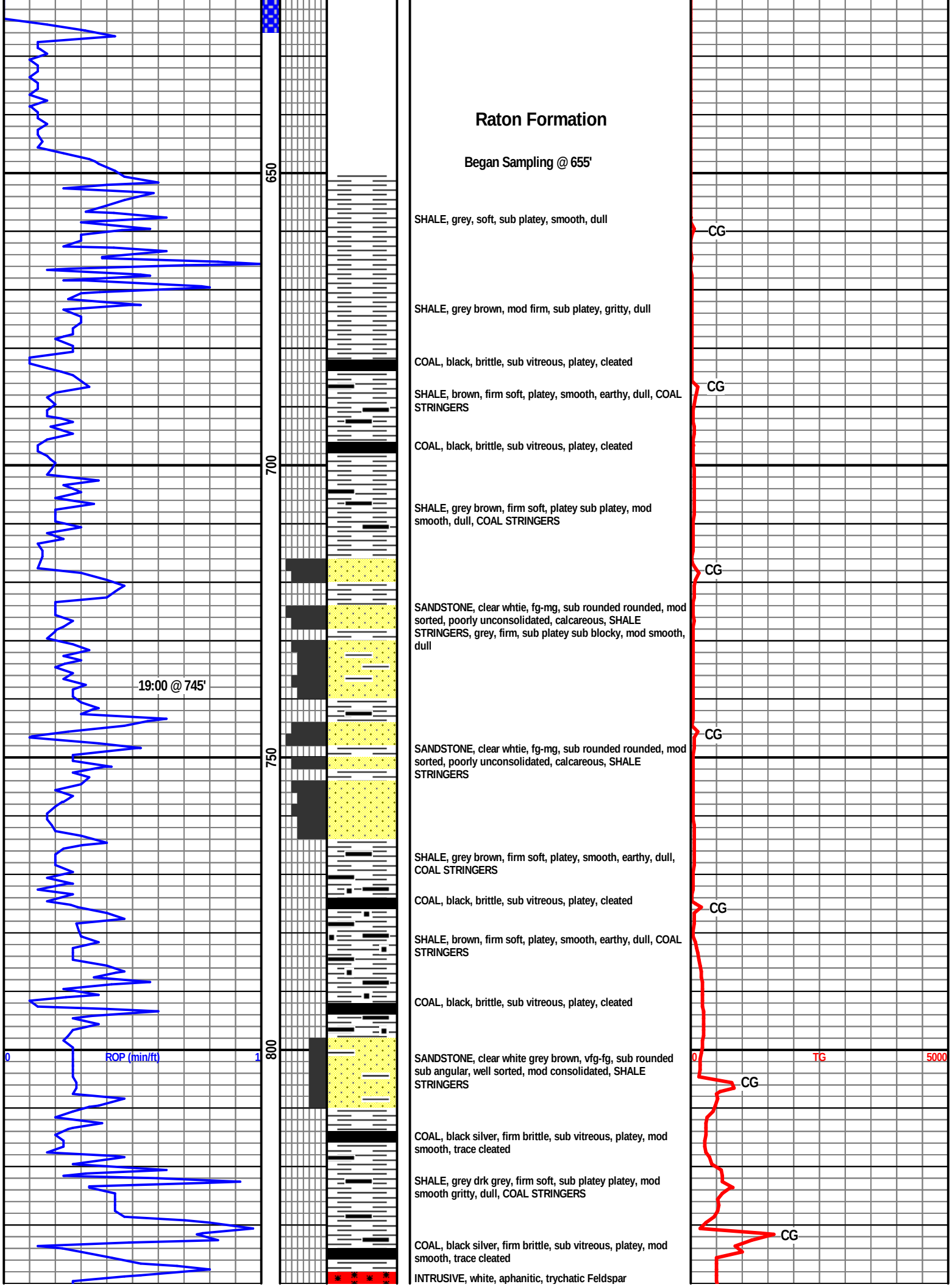
ROUNDING: Rounded, Subrnd, Subang, Angular

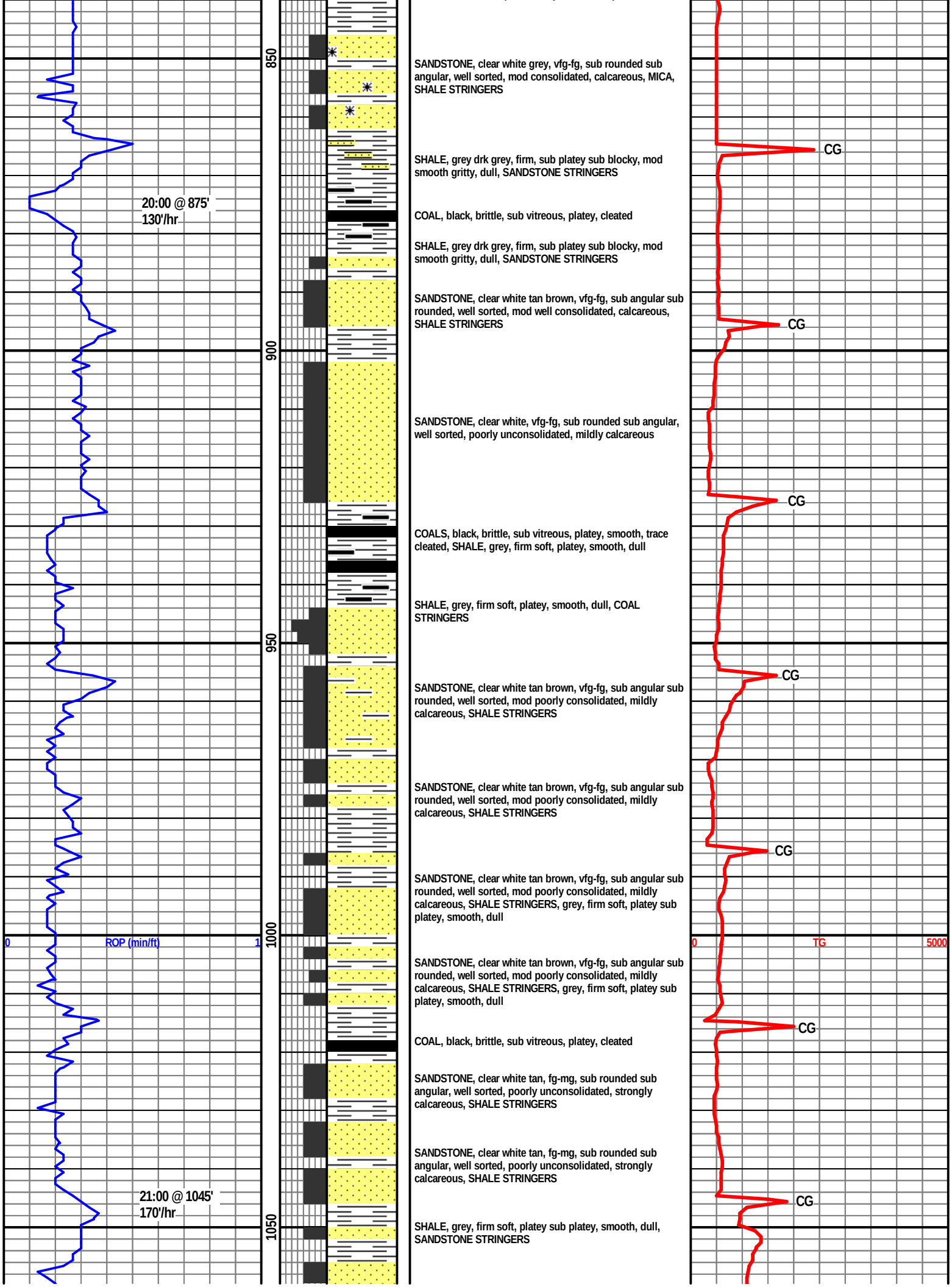
OIL SHOWS: Even, Spotted, Ques, Dead

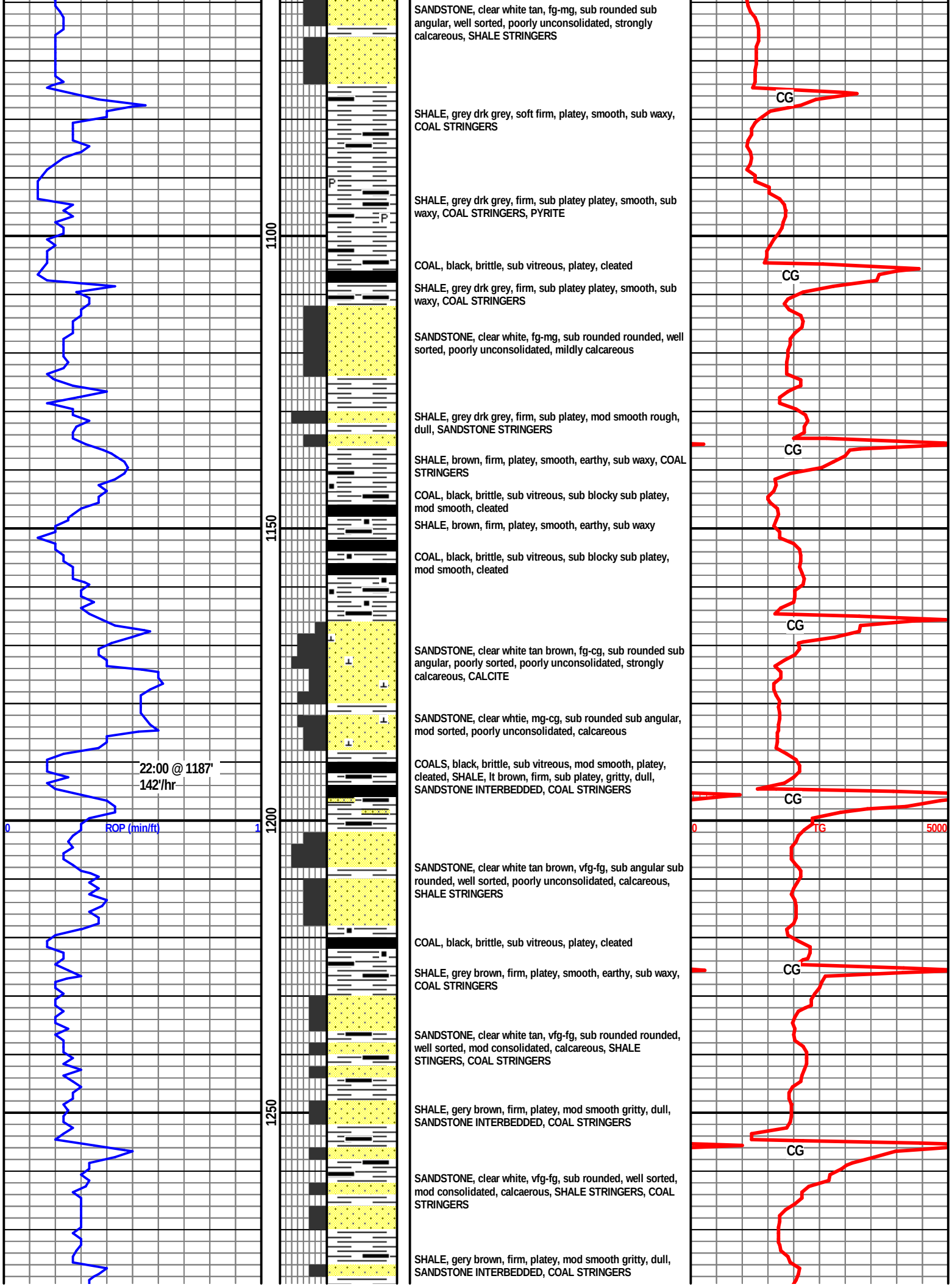
INTERVALS: Core, Dst, Srfcsg, Cv-v, Cv-c

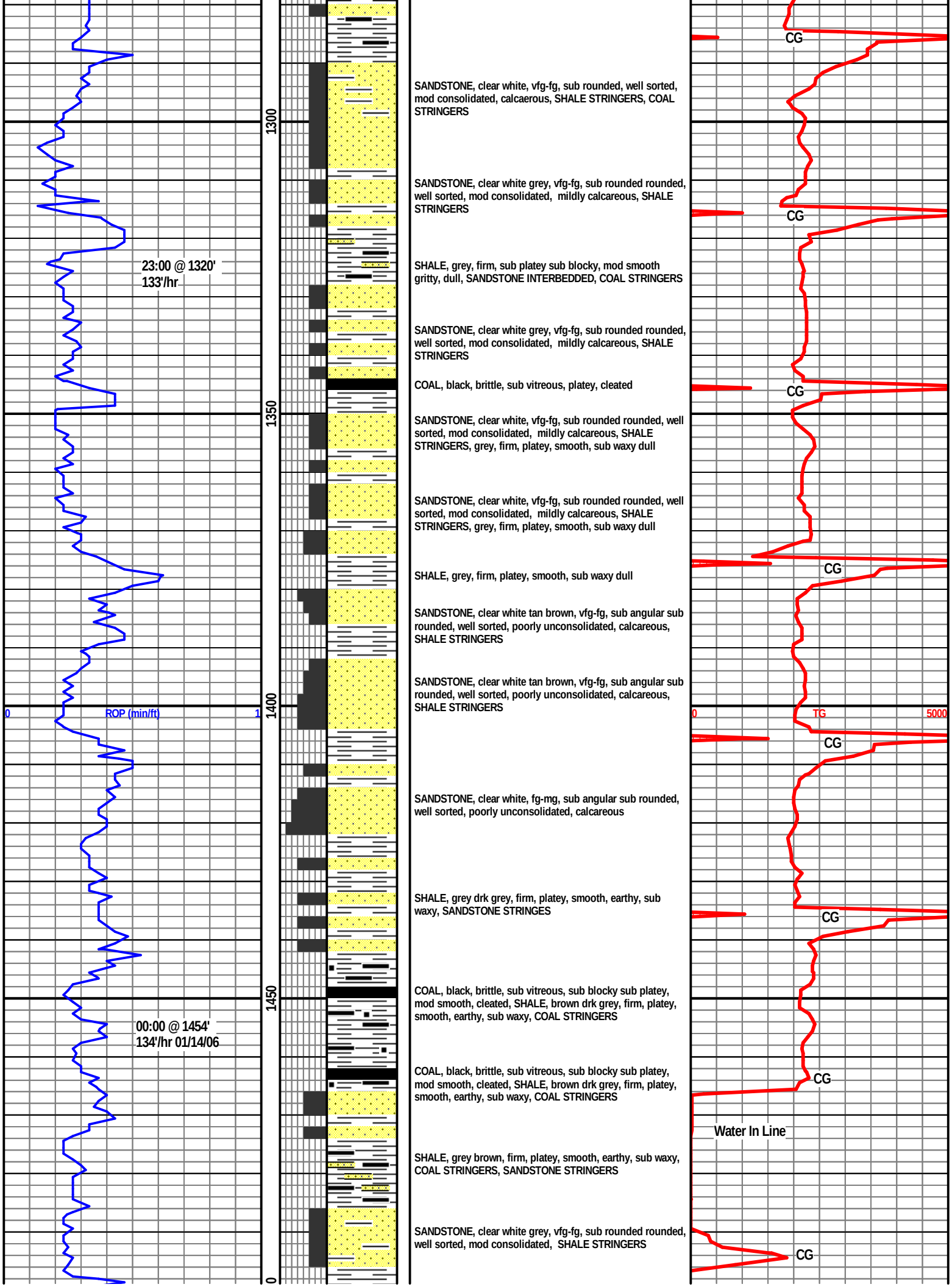
EVENTS: Rft, Sidewall, Srfcsg

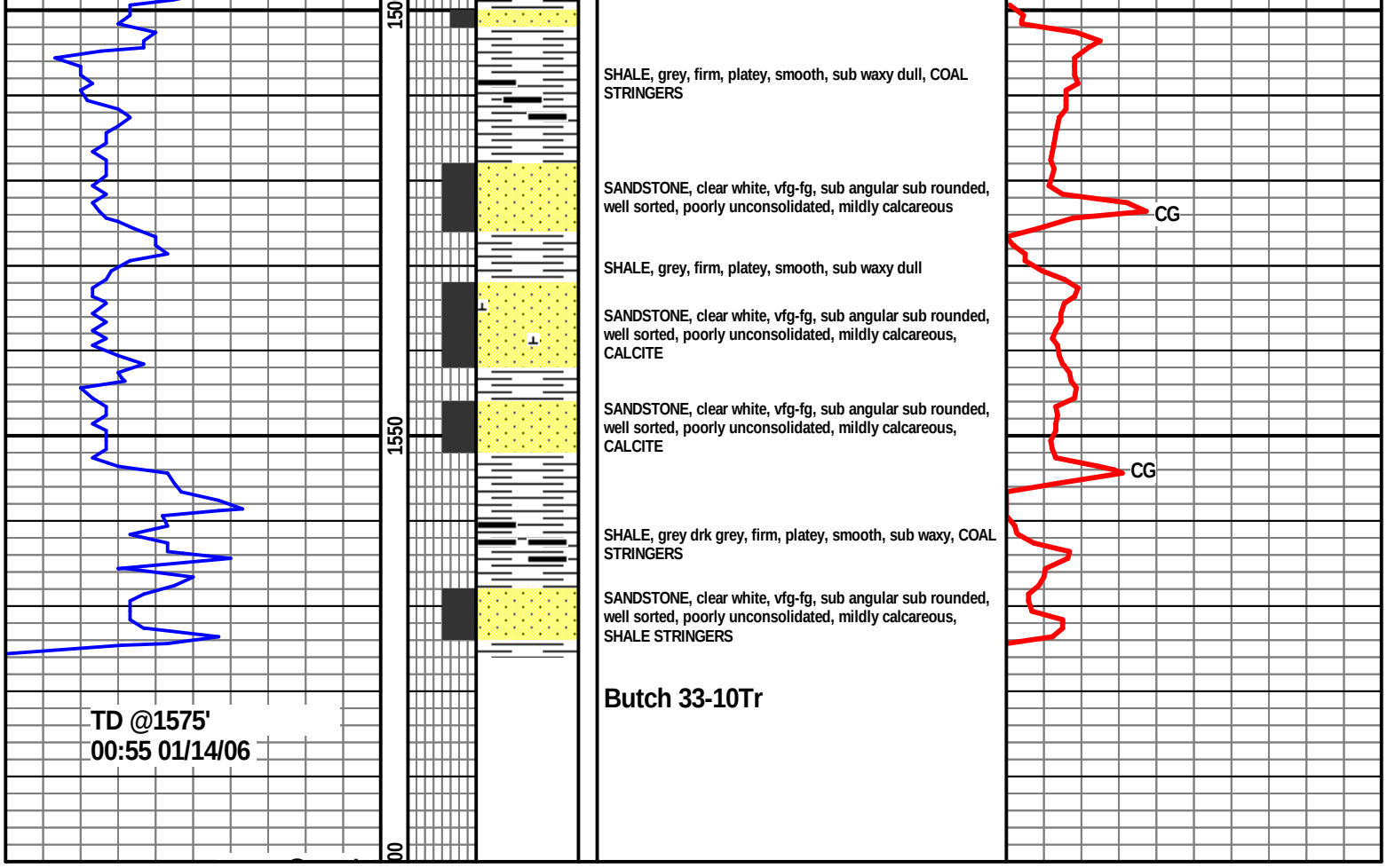
Gamma Ray ROP (min/ft)	Depth	Porosity 24% 18% 12% 6%	Lithology	Oil Shows	Geological Descriptions	TG TG (units)
0 ROP (min/ft) 1 PWS Drilling Rig #33 Tag Cement @ 525'					Butch 33-10Tr	0 TG 5000 MSI MODEL TG TOTAL HYDROCARBON CCD/TCD
0 ROP (min/ft) 1 8 5/8" Surface Casing Set @627.57' 18:22 12/22/2005 Began Drilling New Formation from 628' w/ Air Hammer	600				Blanco Geological Services Logging Unit Operational @ 18:00 01/13/06	0 TG 5000 TG Scale 0-5000 Units


Raton Formation
Began Sampling @ 655'
650
700
750
800
SHALE, grey, soft, sub platey, smooth, dull
SHALE, grey brown, mod firm, sub platey, gritty, dull
COAL, black, brittle, sub vitreous, platey, cleated
SHALE, brown, firm soft, platey, smooth, earthy, dull, COAL STRINGERS
COAL, black, brittle, sub vitreous, platey, cleated
SHALE, grey brown, firm soft, platey sub platey, mod smooth, dull, COAL STRINGERS
SANDSTONE, clear whtie, fg-mg, sub rounded rounded, mod sorted, poorly unconsolidated, calcareous, SHALE STRINGERS, grey, firm, sub platey sub blocky, mod smooth, dull
SANDSTONE, clear whtie, fg-mg, sub rounded rounded, mod sorted, poorly unconsolidated, calcareous, SHALE STRINGERS
SHALE, grey brown, firm soft, platey, smooth, earthy, dull, COAL STRINGERS
COAL, black, brittle, sub vitreous, platey, cleated
SHALE, brown, firm soft, platey, smooth, earthy, dull, COAL STRINGERS
COAL, black, brittle, sub vitreous, platey, cleated
SANDSTONE, clear white grey brown, vfg-fg, sub rounded sub angular, well sorted, mod consolidated, SHALE STRINGERS
COAL, black silver, firm brittle, sub vitreous, platey, mod smooth, trace cleated
SHALE, grey drk grey, firm soft, sub platey platey, mod smooth gritty, dull, COAL STRINGERS
COAL, black silver, firm brittle, sub vitreous, platey, mod smooth, trace cleated
INTRUSIVE, white, aphanitic, trychatic Feldspar
19:00 @ 745'
0
ROP (min/ft)
1
CG
CG
CG
CG
CG
CG
CG
0
TG
5000


850
900
950
1000
1050
0
ROP (min/ft)
1
20:00 @ 875'
130'/hr
21:00 @ 1045'
170'/hr
SANDSTONE, clear white grey, vfg-fg, sub rounded sub angular, well sorted, mod consolidated, calcareous, MICA, SHALE STRINGERS
SHALE, grey drk grey, firm, sub platey sub blocky, mod smooth gritty, dull, SANDSTONE STRINGERS
COAL, black, brittle, sub vitreous, platey, cleated
SHALE, grey drk grey, firm, sub platey sub blocky, mod smooth gritty, dull, SANDSTONE STRINGERS
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, mod well consolidated, calcareous, SHALE STRINGERS
SANDSTONE, clear white, vfg-fg, sub rounded sub angular, well sorted, poorly unconsolidated, mildly calcareous
COALS, black, brittle, sub vitreous, platey, smooth, trace cleated, SHALE, grey, firm soft, platey, smooth, dull
SHALE, grey, firm soft, platey, smooth, dull, COAL STRINGERS
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, mod poorly consolidated, mildly calcareous, SHALE STRINGERS
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, mod poorly consolidated, mildly calcareous, SHALE STRINGERS
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, mod poorly consolidated, mildly calcareous, SHALE STRINGERS, grey, firm soft, platey sub platey, smooth, dull
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, mod poorly consolidated, mildly calcareous, SHALE STRINGERS, grey, firm soft, platey sub platey, smooth, dull
COAL, black, brittle, sub vitreous, platey, cleated
SANDSTONE, clear white tan, fg-mg, sub rounded sub angular, well sorted, poorly unconsolidated, strongly calcareous, SHALE STRINGERS
SANDSTONE, clear white tan, fg-mg, sub rounded sub angular, well sorted, poorly unconsolidated, strongly calcareous, SHALE STRINGERS
SHALE, grey, firm soft, platey sub platey, smooth, dull, SANDSTONE STRINGERS
CG
CG
CG
CG
CG
CG
CG
0
TG
5000


SANDSTONE, clear white tan, fg-mg, sub rounded sub angular, well sorted, poorly unconsolidated, strongly calcareous, SHALE STRINGERS
SHALE, grey drk grey, soft firm, platey, smooth, sub waxy, COAL STRINGERS
SHALE, grey drk grey, firm, sub platey platey, smooth, sub waxy, COAL STRINGERS, PYRITE
COAL, black, brittle, sub vitreous, platey, cleated
SHALE, grey drk grey, firm, sub platey platey, smooth, sub waxy, COAL STRINGERS
SANDSTONE, clear white, fg-mg, sub rounded rounded, well sorted, poorly unconsolidated, mildly calcareous
SHALE, grey drk grey, firm, sub platey, mod smooth rough, dull, SANDSTONE STRINGERS
SHALE, brown, firm, platey, smooth, earthy, sub waxy, COAL STRINGERS
COAL, black, brittle, sub vitreous, sub blocky sub platey, mod smooth, cleated
SHALE, brown, firm, platey, smooth, earthy, sub waxy
COAL, black, brittle, sub vitreous, sub blocky sub platey, mod smooth, cleated
SANDSTONE, clear white tan brown, fg-cg, sub rounded sub angular, poorly sorted, poorly unconsolidated, strongly calcareous, CALCITE
SANDSTONE, clear whtie, mg-cg, sub rounded sub angular, mod sorted, poorly unconsolidated, calcareous
COALS, black, brittle, sub vitreous, mod smooth, platey, cleated, SHALE, lt brown, firm, sub platey, gritty, dull, SANDSTONE INTERBEDDED, COAL STRINGERS
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, poorly unconsolidated, calcareous, SHALE STRINGERS
COAL, black, brittle, sub vitreous, platey, cleated
SHALE, grey brown, firm, platey, smooth, earthy, sub waxy, COAL STRINGERS
SANDSTONE, clear white tan, vfg-fg, sub rounded rounded, well sorted, mod consolidated, calcareous, SHALE STINGERS, COAL STRINGERS
SHALE, gery brown, firm, platey, mod smooth gritty, dull, SANDSTONE INTERBEDDED, COAL STRINGERS
SANDSTONE, clear white, vfg-fg, sub rounded, well sorted, mod consolidated, calcaerous, SHALE STRINGERS, COAL STRINGERS
SHALE, gery brown, firm, platey, mod smooth gritty, dull, SANDSTONE INTERBEDDED, COAL STRINGERS
22:00 @ 1187'
142'/hr
0
ROP (min/ft)
1
1100
1150
1200
1250
CG
CG
CG
CG
CG
CG
0
TG
5000


23:00 @ 1320'
133'/hr
0
ROP (min/ft)
1
00:00 @ 1454'
134'/hr 01/14/06
1300
1350
1400
1450
SANDSTONE, clear white, vfg-fg, sub rounded, well sorted, mod consolidated, calcaerous, SHALE STRINGERS, COAL STRINGERS
SANDSTONE, clear white grey, vfg-fg, sub rounded rounded, well sorted, mod consolidated, mildly calcareous, SHALE STRINGERS
SHALE, grey, firm, sub platey sub blocky, mod smooth gritty, dull, SANDSTONE INTERBEDDED, COAL STRINGERS
SANDSTONE, clear white grey, vfg-fg, sub rounded rounded, well sorted, mod consolidated, mildly calcareous, SHALE STRINGERS
COAL, black, brittle, sub vitreous, platey, cleated
SANDSTONE, clear white, vfg-fg, sub rounded rounded, well sorted, mod consolidated, mildly calcareous, SHALE STRINGERS, grey, firm, platey, smooth, sub waxy dull
SANDSTONE, clear white, vfg-fg, sub rounded rounded, well sorted, mod consolidated, mildly calcareous, SHALE STRINGERS, grey, firm, platey, smooth, sub waxy dull
SHALE, grey, firm, platey, smooth, sub waxy dull
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, poorly unconsolidated, calcareous, SHALE STRINGERS
SANDSTONE, clear white tan brown, vfg-fg, sub angular sub rounded, well sorted, poorly unconsolidated, calcareous, SHALE STRINGERS
SANDSTONE, clear white, fg-mg, sub angular sub rounded, well sorted, poorly unconsolidated, calcareous
SHALE, grey drk grey, firm, platey, smooth, earthy, sub waxy, SANDSTONE STRINGES
COAL, black, brittle, sub vitreous, sub blocky sub platey, mod smooth, cleated, SHALE, brown drk grey, firm, platey, smooth, earthy, sub waxy, COAL STRINGERS
COAL, black, brittle, sub vitreous, sub blocky sub platey, mod smooth, cleated, SHALE, brown drk grey, firm, platey, smooth, earthy, sub waxy, COAL STRINGERS
SHALE, grey brown, firm, platey, smooth, earthy, sub waxy, COAL STRINGERS, SANDSTONE STRINGERS
SANDSTONE, clear white grey, vfg-fg, sub rounded rounded, well sorted, mod consolidated, SHALE STRINGERS
CG
CG
CG
CG
0
TG
5000
CG
CG
CG
Water In Line
CG


150
1550
00
SHALE, grey, firm, platey, smooth, sub waxy dull, COAL STRINGERS
SANDSTONE, clear white, vfg-fg, sub angular sub rounded, well sorted, poorly unconsolidated, mildly calcareous
SHALE, grey, firm, platey, smooth, sub waxy dull
SANDSTONE, clear white, vfg-fg, sub angular sub rounded, well sorted, poorly unconsolidated, mildly calcareous, CALCITE
SANDSTONE, clear white, vfg-fg, sub angular sub rounded, well sorted, poorly unconsolidated, mildly calcareous, CALCITE
SHALE, grey drk grey, firm, platey, smooth, sub waxy, COAL STRINGERS
SANDSTONE, clear white, vfg-fg, sub angular sub rounded, well sorted, poorly unconsolidated, mildly calcareous, SHALE STRINGERS
Butch 33-10Tr
CG
CG
TD @1575'
00:55 01/14/06