

Décollement Consulting Inc.



Scale: 5" / 100'
Measured Depth Log

Well Name North Platte K21-O24-34HNC_Curve

Location SE/SW Section 27, T5N - R63W

State CO

County Weld

Country USA

Rig Number Xtreme 22

API Number 05-123-41886

Field Wattenberg

Region D.J. Basin

Drilling Completed 9/4/2015

Spud Date 9/1/2015

Surface Coordinates 1171 FNL x 2482 FWL (Lat: 40.36643, -104.42236)

Bottom Hole Coordinates 470 FNL x 2446 FWL (Lat: 40.35002, -104.42263)

Ground Elevation 4,541

K.B. Elevation 4,558

Logged Interval 6,250 To 6,950

Total Depth 6,976

Formation Niobrara "C" Chalk

Type of Drilling Fluid Water Based Mud

Operator

Address Bonanza Creek Energy, Inc.
410 17th Street, Suite 1500
Denver, Colorado 80202

Geologist

Name Dan Kabala & Brian Spitzmiller

Company Décollement Consulting Inc.

Address 13300 Braun Rd.
Golden, CO. 80401

Zone Color Coding



Rock Types

Blank



CHALK

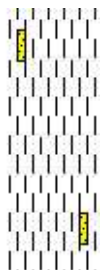
CEMENT

LIMESTONE

SANDSTONE



MPF



SHALE S



SHALE SF

CPF MARLSTONE SHALE



Accessories

Fossils

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

F 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

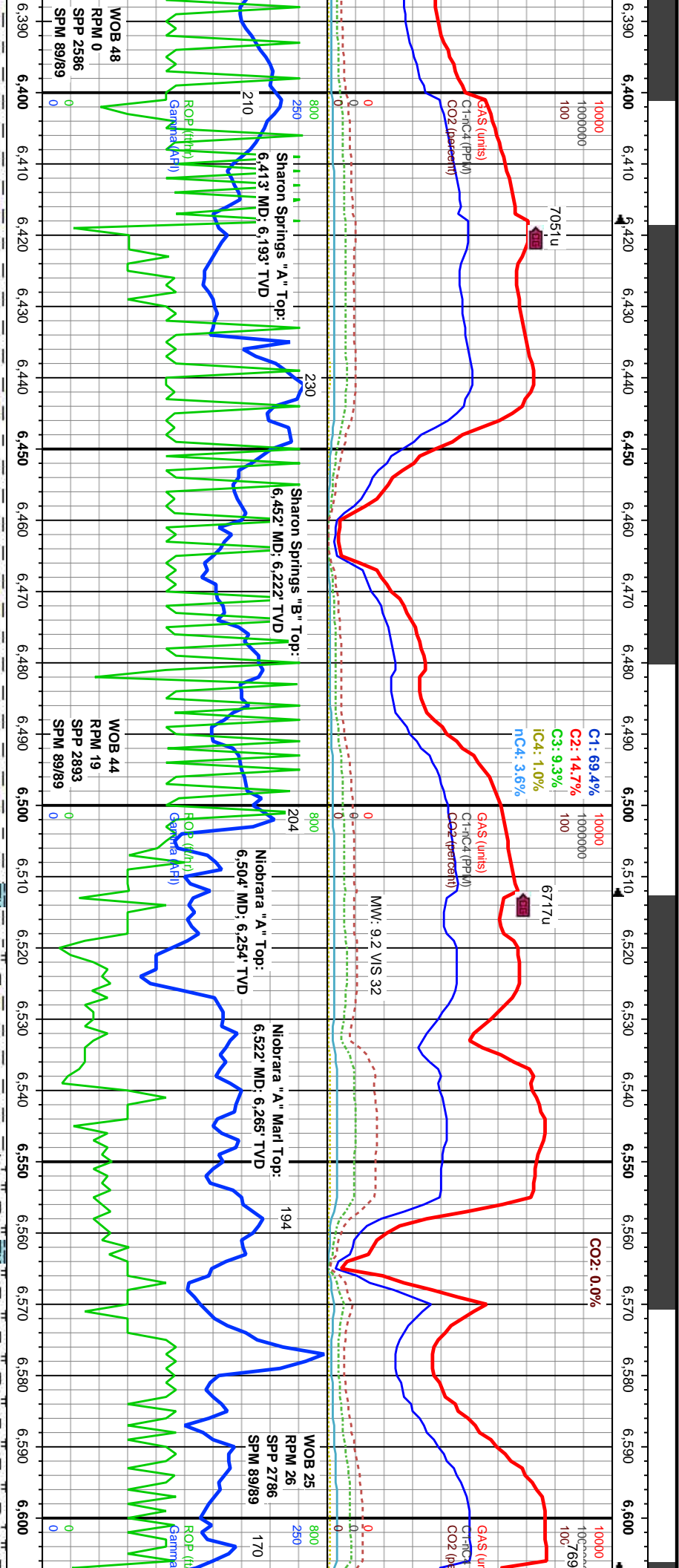
SILICEOUS

SILTY

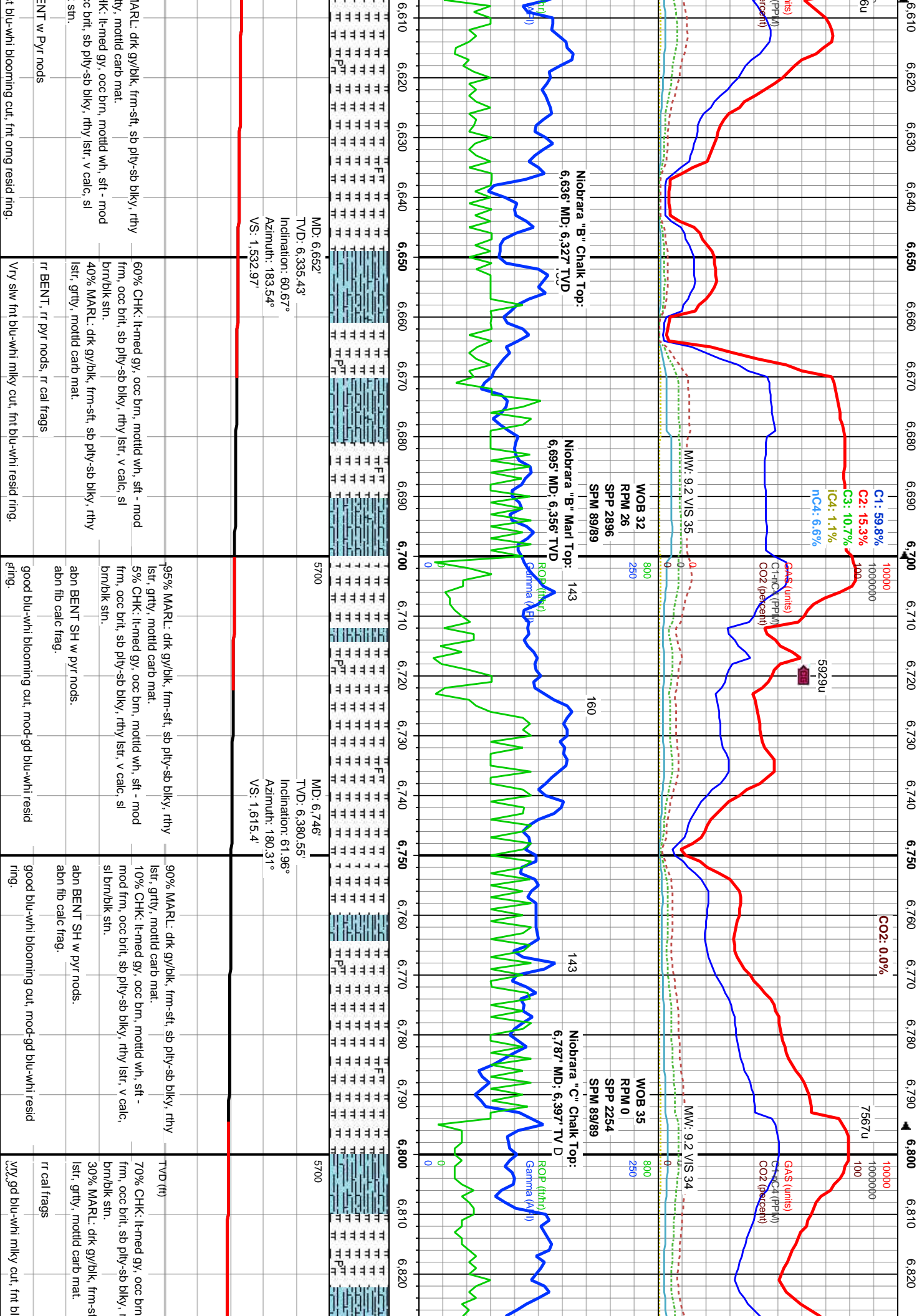
TUFFACEOUS

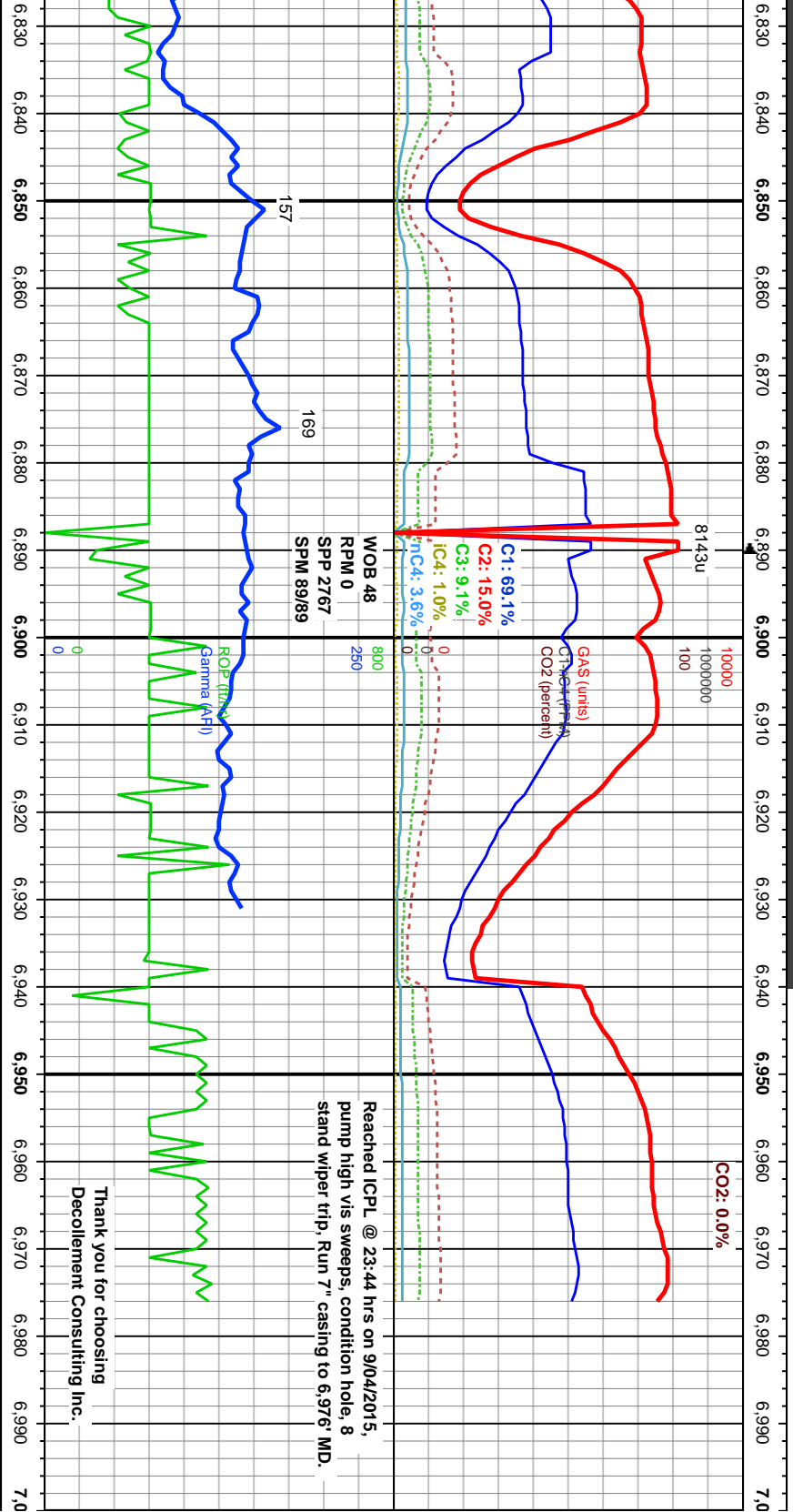
Stringer

- ANHYDRITE STRINGER
- BENTONITE STRINGER
- COAL STRINGER
- DOLomite STRINGER
- GYPSUM STRINGER
- LIMESTONE STRINGER
- MARLSTONE (CALC) STRG
- MARLSTONE (DOU) STRG
- SANDSTONE STRINGER
- SHALE STRINGER
- SILTSTONE STRINGER



Sharon Springs "A" Top: 6,413 MD: 6,193' TVD		Sharon Springs "B" Top: 6,452 MD: 6,222' TVD		Niobrara "A" Top: 6,504' MD: 6,254' TVD		Niobrara "A" Marl Top: 6,522' MD: 6,265' TVD		WOB 25 RPM 26 SPM 2786 SPM 8989	
5700	MD: 6,463' TVD: 6,229.72' Inclination: 50.59° Azimuth: 194.44° VS: 1,379.02'	5700	MD: 6,463' TVD: 6,229.72' Inclination: 50.59° Azimuth: 194.44° VS: 1,379.02'	5700	MD: 6,558' TVD: 6,286.26' Inclination: 56.33° Azimuth: 191.86° VS: 1,453.53'	5700	MD: 6,558' TVD: 6,286.26' Inclination: 56.33° Azimuth: 191.86° VS: 1,453.53'	5700	MD: 6,558' TVD: 6,286.26' Inclination: 56.33° Azimuth: 191.86° VS: 1,453.53'
100% SH: lt-med gy, dk gy/brn, dll rthy lstr spiking ip, sl wxy, v com silty grty txt, tbr ply occ blk, crmbly ten, r dk intrbdd carb mat, string rxn w hcl.		100% CARB SH: med gy gy brwn, com dk gy/brn, dll rthy-smth lstr, sl wxy, r silty grty txt, tbr ply occ blk, crmbly ten, com dk intrbdd carb mat		60% CARB SH: med gy, dk gy occ lt gry, dll rthy lstr spkig ip, sl wxy, r silty grty txt, tbr ply occ blk, crmbly ten, string rxn w hcl. 10% SH: med gy - dk gy, occ blk, dll rthy lstr, sl wxy, r sl grty txt, tbr ply r blk, crmbly ten, r intrbdd carb mat. 10% CHK: lt-med gy, mottld wh, stf - mod frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn. 20% MARL: dk gy/bk, frm-stf, sb ply-sb blk, rthy lstr, grty, mottld carb mat. r SS.		95% MARL: dk gy/bk, frm-stf, sb ply-sb blk, rthy lstr, grty, mottld carb mat. 5% CHK: lt-med gy, occ brn, mottld wh, stf - mod frm, occ brt, sb ply-sb blk, rthy lstr, v calc, sl brn/bk stn.		abn BENT w Pyr nodes	
tr SS.		tr SS, abn BENT		V fast brn blu-whi blooming cut, Gd yel resid mg		Mod fast blu-whi blooming cut, fni ornng resid ring.		abn BENT	
80gd mlky blu cut, v tln dtk yel resid ring		slw v dul mlky blu cut, v tln grn-yel resid ring						Mod fast	





MD: 6.841' TVD: 6,418.94' Inclination: 70.34° Azimuth: 177.43° VS: 1,702.15'		5700		MD: 6.927' TVD: 6,431.81' Inclination: 92.34° Azimuth: 179° VS: 1,786.57'	MD: 6.976' TVD: 6,429.81' Inclination: 92.34° Azimuth: 179° VS: 1,835.5'	
90% MARL: dk gy/bk, frm-sft, sb pily-sb blk, rthy lsr sprkling ip, grty, mottld carb mat. 10% CHK: lt-med gy, occ brn, mottld wh, sft - mod frm, occ brt, sb pily-sb blk, rthy lstr, v calc, sl brn/bk str.		95% MARL: dk gy/bk, frm-sft, sb pily-sb blk, rthy lsr sprkling ip, grty, mottld carb mat. 5% CHK: lt-med gy, occ brn, mottld wh, sft - mod frm, occ brt, sb pily-sb blk, rthy lstr, v calc, sl brn/bk str.		tr flb calc frag. good blu-whi blooming cut, mod-gd blu-whi resid grng.		
abn flb calc frag. good blu-whi blooming cut, mod-gd blu-whi resid ring.						
u-whi resid ring.						