

HYDROCARBON
WELL LOG

WELL LOCATION

LEGEND — GAS CURVES	
TOTAL GAS	T
METHANE	1
ETHANE	2
PROPANE	3
ISO & N-BUTANE	4
OIL INDICATOR	$\frac{C_3 + C_4}{C_1}$ 0

HYDROCARBON ANALYSIS

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TOTAL GAS			Reported in Units
10	100	1000	10 100
GAS CHROMATOGRAPHY			Reported in PPM
100	1000	10000	100 1000
OIL INDICATOR			Dimension Less
0.01	0.1	1.0	0.01 0.1

3" coding ref. at 2074.4

Drilling with CaCO_3 / Gel
base mud

Depth of Coal Intervals

100 units Total Gas = 1% methane
 10 100 1000 units
 100 1000 10 000 ppm

heavies - 100 1000 ppm
 CO₂ - 1000 10,000 ppm

NOTE: 200 bbls of mud came from another well. Majority of coal observed in first samples probably contributed from this mud.

Sh lt-m gy, lt brn gy, sb platy, firm, sb waxv- earthy, non-v, slt calc, gen non carb. silty in

Ss med gy wh, sli S&P,
pred f-occ m gr, fr-pr
srt, sb ang, mod fri, mod
-v calc cmt w/ wh calc
clyst, w/ rare glauc &
mica flakes NS

Sh m-dk brn,dk brn gy
sb platy,sb blocky,frm
earthy-sb res,mod-v
carbonac.,occ black
vit coal stringers

Coal black-brn black,
sb blocky-sb platy,
pred sb vit, very-ext-
remely carbonac. &
argillac., grading to
carb Sh in lower part

Ss m gy wh, sli S&P,
pred f-occ m gr, sb ang
-ang, p-fr srt, mod fri,
calc & wh arg cmt, tt,
carb grs & occ gn-red
grs, vel mnrl flor, NS

Sh m-v dk brn, blk brn
sb platy-sb blk, earthy
-sb res, v carb grading
to carb-argill coal,
coal is gen brn blk,
sb platy, sb vit

Coal blk & brn blk,
pred sb vit & dull, sb
plty-sb biky, 0-10% vit
gen v carb & argillac.
occ amber colored
resin, some small calc
veins, best coal in
bottom portion

Ss lt gy wh,v sli S&P
f-vf gr,fr srt,mod fri
v calc cmt w/ sme wh
arg cmt,tt,dull gold
mnrl flor,NS

Sh dk chocolate brn,
sb plty, earthy, v carb
w/ dissem coaly grs

Ss m brn,gy brn,sb
ang,f-occ m gr,fr sri,
occ carb-coaly lam,
abnt brownish calcite,
grd to sandy ls

Coal blk & brn blk, sb
plty-sb blk, 10% vit-
rest sb vit-sb res,
upper part sli-mod
carb becoming pred
carb in lower portion.

lower part permeated
w/ wh amorphous calc-
coal decrepitates in
acid water solution

Coal blk-brn blk, sb
blky, pred sb vit, 10%
vit, mod-v carb, pyr ip
no dissem calcite

Ss brn gy,gy wh,f gr,
sb ang,p srt,mod frm,
much less calc than
above Ss,w/ included
m gr pieces of coal &
carb material,NS

Ss gy wh, brn wh S&P,
vf-f gr, sb ang, fr srt,
calc cmt-arg ip, mod
fri, gen tt, peppered
w/ carb & glauc grs,
no vis stn, pale yel-
gold flor, v slow milky
yellow cut

Ss gy wh S&P, sb ang,
becoming sli coarser
gr, fri, fr srt, less
calc than above, poor
vis por glauc becoming

more carb to base w/
reworked coal frags,
no vis stn, pale yel
spty-unif flor, slow
milky yellow cut

Coal pred blk, good blocky texture w/ conch frac-massive, approx 70% vit-very little brn carb mater. rare resin, best coal of well

TD sample- drilled
up one foot of dk brn-
blk coaly & carb Siltst
w/ included red-brn
resinous material

DST # 1
~~Interval: 3263' - 3300' Pictured Cliffs Formation~~

Type Test: conventional open hole, dual packers
Recovery:

RECOVERY.

Pipe: 50' drilling mud, gas to surface
Sampler: 1100 cc mud, 4.06 cu. ft gas at 900 psi
BHT:

IH	1850.5		
IF	62.5 - 83.4	18 min.	
ISI	1058.6	32 min.	
FF	83.4 - 97.3	16 min.	
FSI	1140.4	62 min.	
FH	1850.5		