Murfin Drilling Company Inc

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

Well Name:	Red Poll #8-21		
API:	05-073-06754		
Location:	SENE Sec. 21-10S-56W, Lincoln Co., CO		
License Number:	COGCC Opr #61650	Region:	Wildcat
Spud Date:	11/20/18	Drilling Completed:	12/8/18
Surface Coordinates:	1900' FNL & 605' FEL		
Bottom Hole Coordinates:	Straight Hole		
Ground Elevation (ft):	5,489'	K.B. Elevation (ft):	5,502"
Logged Interval (ft):	4450' To: 4850	Total Depth (ft):	8400
Logged Interval (ft):	6800' To: 8400'		
Type of Drilling Fluid:	Pre-Mix		

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

OPERATOR

Company: Murfin Drilling Company, Inc.
Address: 250 North Water, Suite #300
Wichita, Kansas 67202

GEOLOGIST

Name: Gregg Smith
Company: GPS Consulting Services LLC
Address: 289 CR 804, C-104
PO Box 388
Fraser, CO 80442

DSTs

DST #1, 7376' to 7427', Pleasanton, GTS 1 min into ISI, Fluid recovery: 672' Gsy OCM.
DST #2, 7428' to 7470', Marmaton C, GTS 29 min into IO, Fluid recovery: 1342' SW.
DST #3 miss-run, tagged obstruction going in hole tst tls opened
DST #4, 7490' to 7537', Lower Ft. Scott, Fluid Rec: 5' M

ROCK TYPES

Anhy	Clyst	Gyp	Mrlst	Shgy
Bent	Coal	Igne	Salt	Sltst
Brec	Congl	Lmst	Shale	Ss
Cht	Dol	Meta	Shcol	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
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

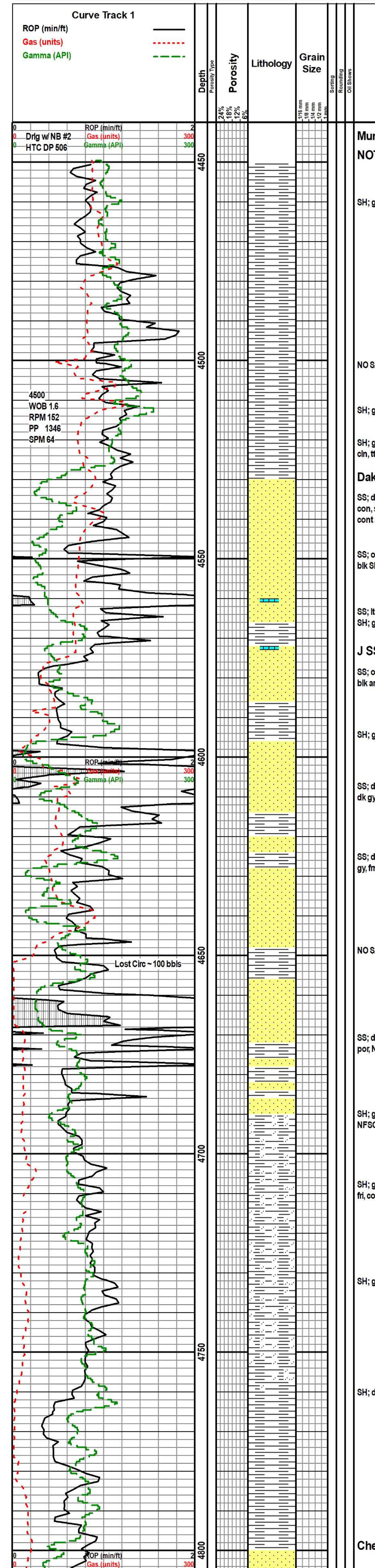
SORTING
- Well
- Moderate
- Poor

ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

OIL SHOW
- ● Even
- Spotted
- Ques
- Dead

INTERVAL
- Core
- Dst

EVENT
- Rft
- Sidewall



Geological Descriptions

Murfin Drilling, Rig #25

NOTE: All Annotated Tops Are Log Tops

SH; gy - dk gy, sft - frm, plty, tr carb ip, rr slty, tr BENT; sft bgt mnrl flor.

NO SAMPLE

SH; gy - lt gy frm - sft, plty cont aa, com v f grty - slty tex, rr sdy ip, tt tru.

SH; gy - dk gy, cont aa, rr sdy ip, SS; sl tr only gy - dirty gy, frm, v f gr, arg, tt, rr wh cln, tt tru, NFSOC

Dakota 4527' (+975')

SS; distinct inc amt. off wh - dirty gy, v fri - frm, v f gr, sbrd - sbang, w srtd and con, spty mlky wh, sl calc cly mtx, rr / thn blk arg strgs, n - p vis por, VFSOC. SH; cont aa.

SS; off wh - lt gy, v fri - frm, v f gr, sbang - sbrd, w srtd, mod w con, spty glau, tr blk SH prtgs, n - p intrgr por, NFSOC. SH; gy - dk gy, cont aa.

SS; lt gy - off wh, v fri, cont aa, NFSOC. LS; tr only, tan - lt bn, hd, blky, micxl, tt. SH; gy - lt gy, frm - sft, tr carb.

J SS 4571' (+931')

SS; off wh - lt gy - lt tan, v fri, f - v f gr, sb ang, w srtd, mod w srtd, spty glau pel, tr blk arg prtgs, rr tr uncon c frost grs, n vis por, NFSOC.

SH; gy - dk gy - bn, sft, plty, sbfis, tr carb ip. SS; cont aa. n vis por NFSOC.

SS; dirty gy - off wh, fri - frm, v f gr, sbang, w srtd and con, spty glau, occ blk - dk gy SH prtgs, n vis poir, NFSOC. SH; gy - dk gy, sft, cont aa.

SS; dirty gy - lt bn, v fri - frm, f gr - slty, pred arg ip, n vis por, NFSOC. SH; gy - dk gy, frm - sft, plty, rr slty ip, tr carb.

NO SAMPLE

SS; dirty gy - gy, fri - frm, v f - f gr, w srtd and con, pred arg ip, tr SH strgs, n vis por, NFSOC. SH; cont aa.

SH; gy - dk gy, sft - frm, pred sdy grad - arg SS, tt tru, NFSOC. SS; cont aa, tt tru NFSOC.

SH; gy - dk gy - bn, frm, plty, com slty - sdt, grad - arg SS. SS; lt gy - off wh, frm - fri, com assoc / dk gy SH, tt tru, NFSOC.

SH; gy - dk gy, v slty - sdy, cont aa.

SH; dk gy - blk, frm, plty - sbblky, occ carb ip, occ slty - sdy, cont aa.

Cheyenne 4798' (+704')

Geological Descriptions

Murfin Drilling, Rig #25

NOTE: All Annotated Tops Are Log Tops

LS; lt bn, hd, blky, f xln occ lt bn / mic gran tex, pos dolic ip, tt tru. SH; gy - dk gy, frm, plty pred cavings.

Poor samples ater displacement. LS; tan - lt bn, frm - hd, blky, fxl, com mic gran tex, tt tru.

LS; bn - dk bn, hd, blky, f - micxl, tr c fragm, tr thn wh calcite strgs, n vis por NSOC. SH; dk gy - blk, frm, plty, pred carb.

LS; med - dk bn, hd, v blky, micxl, dns, tr blk plty arg, rr carb. SH; blk - dk gy, plty, com carb.

LS; bn - dk bn, hd, blky, micxl, tr lith tex, rr fos, tt tru. SH; gy - dk gy, cont aa.

LS; tan - med bn, hd, blky, fxl, occ mic xln, tr mot, fos, pred dns, tt tru. SH; cont aa.

LS; tan - lt bn, frm, sbblky, rthy - clky tex, tr scat fos frags, n vis por, NSOC.

LS; tan - med bn, frm - hd, sbblky, fxl, com fos ip, occ micxl, tt tru.

NO SAMPLE DUE TO LOST CIRC

POOR SAMPLE, pred lcm and various SH cavings.

LS; tan - lt bn, hd - frm, micxl, occ c fragm, tt tru, SH; gy - dk gy, pred up-hole cavings, abnt LCM.

LS; tan - med bn, hd, blky, micxl, tr lith tex, tr sft rthy, fos, n - p vis por. SH; pred cavings cont aa.

LS; tan - lt bn, hd blky, fxl, occ fos, tt tru. SH; cont aa.

Poor Samples, pred SH and LS cavings, abnt LCM. LS; tan - lt bn, hd; blky, fxl tr v c xl / scat fos frags, tt tru, NSOC. SH; gy - dk gy, cont aa, tr pale gn - gy gn, splnt, sbwxy, rr blk, carb.

Lansing 7066' (-1564')

Poor Samples continue. LS; tan - lt bn, hd, blky, f - micxl. tt. SH gy - dk gy, pred re-worked cavings.

LS; tan - lt bn, frm - hd, fxl, tr scat mic fossils, tr sft, rthy - clky, n vis por. SH; gy - dk gy frm, plty, occ blk, carb.

LS; lt tan - lt bn - off wh, frm - hd, sbblky, fxl - micxl, tt tru. SH dk gy - blk, frm, plty, sbfis, pred carb.

LS; lt tan - off wh, frm - hd, plty - blky, f - micxl, tr scat mic fos, / p inter fos por, oss sft rthy - clky, n stn odor or cut. SH; dk gy - blk, cont aa.

LS; off wh - tan - lt bn, hd, blky, f - micxl, occ mic fragm / mic fos frags, occ dk gy, gran tex, arg ip, n vis por. SH; gy - dk gy frm, plty, occ carb.

LS; off wh - lt tan, frm - sft, fxl, com rthy fos, tr v f sdy, n - p vis por, NSOC. SH; dk gy - blk, cont aa.

LS; tan - lt bn, frm - hd, fxl, occ v fragm occ fos frags, tr mot arg, n vis por.

LS; tan - lt bn, hs, blky, fxlm tr mot tex, fos, occ lse c fos fragsm tt tru. SH; gy - dk gy, frm, plrt, sbblky, abnt blk carb, occ lt gn, blky, sbwxy.

LS; bn - med bn, frm, occ hd, fxl, abnt fos / scat p srtd fos frags, tr p inter frag por, NSOC. SH; cont aa.

LS; tan - bn, frm - hd, f xl, com mot, fos, tr f suc tex, pos dolic ip, tr v f sdy, tt tru. SH; dk gy - blk, frm, plty, occ f grtr tex, com carb.

LS; off wh - tan - lt bn, hd - frm, fxl, tr lt bn / lith tex, tt tru. SH; dk gy - blk, cont aa, com pale gn - gy gn, sft, sbwxy.

LS; tan - off wh, frm, fxl, com rthy mot / spty gy arg incl, tr gn cly prtgs,, tt tru. SH; cont aa.

Stark 7277' (-1775')

LS; lt tan - off wh, frm - sft, blky, f xl, occ rthy, mot, fos, tt tru, NSOC. SH; dk gy - blk, frm, plty, sbfis, pred carb.

Lansing "K" 7302' (-1800')

LS; wh - off wh - tan, sft, chalky, abnt scat m gr ooids and occ p srtd pel, pred clky mic por, rr / p moldic por, occ / dull yel flor, fnt residual cut, p crush cut, NSO.

LS; tan - lt bn, frm - hd, sbblky, pred / dull rthy tex, com fos, tr mot arg, tt tru. SH; gy - dk gy, frm, com carb.

LS; bn - dk bn - dk gy, hd, plty - blky com / f - mic blk carb incl and strgs, tt tru. SH; blk - dk gy, com carb ip.

LS; tan - lt bn, hd, blky, micxl, com sft clky, fos, / clky mic por only, tr dk bn lith, tt tru NSOC. SH dk gy - dk bn, frm, plty, tr blk carb.

Mound City 7353' (-1851')

LS; tan - lt bn, hd, blky, f - mic xl, tr fos, tt tru. SH; cont aa.

LS; tan - lt bn, frm - hd, fxl, tr c ooids tr fos, tr p intr particle / fos por, dull yel mnrl flor, NSOC.

Pleasanton 7388' (-1886')

LS; tan - off wh frm - hd, sbblky, fxl, occ lt gy v f sdy ip, tr mic grn, dolic ip, Occ lt tan f - c xln, / scat f - c gr p srtd fos frags, tr fr inter frag and inter particle por, rr, suc mtx, spty lt tan stn, sl odor, bgt yel flor fr - g strmg cut.

Marmaton 7389' (-1887')

BEGIN SAMPLE DESCRIPTIONS ADJUSTED FOR 14' UPHOLE DEPTH CORRECTION

7396 to 7420 LS; tan - lt bn, frm - hd, sbblky, com, lt gy, sdy, n vis por, NSOC.

Marmaton B 7421' (-1919')

LS; off wh - lt, frm - hd, f - micxlm com rthy mot tex / scat dk gy arg and occ fos frags, occ lt gy sdy, n - p vis por, NSOC.

LS; tan - lt bn, hd, blky, f - micxl, tr scat bk bn pel, rr lt bn CHT, tt tru. SH; dk gy - blk, frm, plty, pred carb.

Marmaton C 7430' (-1928')

LS; bn - med bn, hd, f - mic xl, abnt scat m gr ooids, occ mlky wh cht filled, pred / mic xl dns mtx, occ fr - g oom por, spty dull yel flor, NSOC.

LS; tan - m - dk bn, hd, sbblky, pred mic xl, occ c fragm, tr sparse ooids, tt tru. SH; dk gy - blk, carb, cont aa.

Ft Scott 7466' (-1964')

LS; m - lt bn, hd, blky, fxl - mic xl, pred dns, tt, tr dk bn opq CHT. TT tru

LS; bn - med bn, hd, blky , micxl, occ lt tan, lith tex, th v thn blk SH strgs, tt tru, tr dk bn opq CHT.

LS; cont aa. tr rthy, mot, fos, abnt lith tex, tt tru. SH; dk gy - blk, frm, plty, sbfis, carb.

SH; dk gy - dk bn occ blk, frm, blky - plty, com / f grty yrx, scat ang mic carb debris.

Lower Ft Scott 7501' (-1999')

LS; off wh - tan - lt bn, frm, f xl, occ rthy, f - mic gran tex, fragm, occ / scat ang mic fos frags, rr scat ooids, n - p vis por, tr lt tan oil stn, bgt yel flor fr - g rapid strmg cut / bl wh cut flor, sl odor.

LS; off wh - tan, sft - frm, pred clky / mic ang frags, tr lse v c gr qtz grs, pos fos, pred clky mic por, tr c vgy por, occ lt tan oil stn, abnt bgt yel flor, fr - g rapid strmg cut, bl wh cut flor, sl odor.

Excello7528' (-2026')

SH; dk bn - dk gy, frm, sbblky - plty, com / scar f blk carb frags. LS; cont aa.

Breezy Hill 7537' (-2035')

SH; gy - dk bn, frm, plty, com f gran tx, com / mic carb incl, occ blk carb. LS; med - lt bn, frm - hd, fxl, occ rthy mic gran tex, tr / show cont aa, tt tru

LS; me - dk bn, hd, sub blky, fxl, occ f - mic gran tex, tr med - dk bn, frm, / abnt scat m - c ooids, tr c fos frags, tr g oom por, spty yel flor, NSOC.

LS; bn - dk bn, hd, blky, f - micxl, occ mot / dk gy arg incl, tt tru.

Oakley 7576' (-2074')

SH; gy - dk gy, frm - sft, occ blk, vit, v carb. LS; cont aa, pred dk bn, micxl.

Celia 7583' (-2081')

LS; tan - med bn, frm - hd, sbblky, fxl, com / dg gy - blk w rd pel, tr sdy ip, tr scat ooids, tt tru. SH; dk gy - blk, cont aa, com / f blk carb debris.

LS; med - dk bn, hd, f - micxl, occ scat dk gy - blk pel, tr mot fos, tt tru. SH; gy - dk gy, frm, plty, fis - sbfis, tr blk, splnt, v carb.

LS; tan- bn - dk bn, hd, blku, f - micxl, tr mic gran tex, pos dolomitic ip, tr c ooids, tt tru. SH; gy - dk gy, occ carb, cont aa.

Johnson Zone7567' (-2065')

SH; gy - dk gy - blk, frm, plty, sbfis, occ carb. LS; lt gy - off wh, frm - hd, f - micxl, com / rthy tex, mot / scat dk gy incl, tr clky, tt tru.

LS; bn - dk bn, hd, blky, f - micxl, pred c fragm / scat ang fos frags, tt tru. SH; cont aa.

Atoka 7724' (-2222')

SH; blk - dk gy, frm - hd, splnt ip, occ fis, pred v carb occ / ang carb frags. LS; dk bn - dk gy, hd, blky, micxl, tr gran, mot, arg, tt tru.

SH; gy - dk gy - blk, cont aa, occ pale gn - gy gn, dft, sbwxy. LS; tan - lt bn, hd, blky, f - micxl, occ fragm, tr assoc carb SH, tt tru.

SH; blk - dk gy, frm, plty, sbfis, occ splnt pred carb. LD;lt gy, hd, blky, f - micxl, com / dull rthy lus, tt tru.

SH; dk gy - blk, cont aa, tr pale gn, sft, splnt, / occ dk gn pel and blk carb debris. LS; cont aa, tt tru.

LS; tan - med bn - lt gy, frm - hd, sbblky, f - micxl, occ mot fragm / c fos frags, tr dns, lith tex, tt tru. SH; dk gy - blk, com carb, cont aa.

SH; gy - dk gy, frm - hd, sb blky - plty, pred carb, tr pale gn, sft, sbwxy. LS' tan - lt bn, hd, blky, f - mic xln tt.

LS; gy - lt gy - lt bn, frm - hd, sbblky, fxl, com mot / dk gy arg incl, tt tru. SH; gy - dk gy, frm, plty - sbblky, com carb.

SH, gy - dk gy - blk, carb, cont aa, com lt gy / f ang carb frags. LS; lt tan - lt gy, hd, sbblky, fxl, com dull rthy lus, occ mot, fragm, tt tru.

SH; gy - dk gy - blk, frm, sbblky - plty, com carb. LS; tan - lt gy, hd, blky, fxl, com mic gran tex, tt tru.

SH; gy - dk gy - blk, frm, plty - sbblky, sbfis, com carb, tr pyritic, rr pale gn, sbwxy. LS' tan - lt bn - lt gy, hd, blky, f - micxl, rr mot, fos, tt tru.

Morrow 8004' (-2502')

SH; gy - dk gy - lt gy - gy gn, sftm splnt, sbfis, tr sbwxy, vgtd, occ blk carb, tr lse c gr frost qtz grs. LS; tan - lt bn, hd, blky, mic - fxl, tt.

SH; gy - dk gy - gy gn - plae gn, sft, splnt, tr sbwxy, vgtd, tr blk carb, rr vit lus grad - coal. LS; tan - bn occ dk bn, hd, micxl, com mot rthy, fos, tt tru.

SH; cont aa, . LS; tan - dk bn, hd, blky, micxl, occ mot, fragm, tt.

SH; gy - dk gy - pale gn, frm, plty, sbfis occ carb, rr sft, vgtd. LS; cont aa.

SH; gy - dk gy - blk, fr,. plty, sbfis com carb, rr pale dn, sbwxt vgtd. LS; tan - lt bn, hd, sbblky, f - micxl, tr mic gran tex, tr PYR, tt tru. Tr lse c gr, sb rd, frost qtz grs.

SH; dk gy - blk - lt gy, sft - frm, fis - sbfis, pred / gran tex, v carb. LS; lt tan, hd, blky, fxl, tt.

SH; dk gy - blk, frm, tr pale gn - bn, sft, splnt plty, sbfis, com gran tex, carb, occ sbwxy, vgtd. LS; tan - lt bn, hd, blky, fxl, tr rthy, fos, rr PYR, tt tru.

SH; gy - dk gy - gy gn - pale gn - bn, sft, splnt, plty, sbfis, com carb ip, tr vgtd. LS; bn - dk bn, frm - hd, sbblky, f - micxl, tr scat ooids, tt tru, NSOC.

SH; gy - dk gy - blk, frm, plty, com carb, tr vcol, cont aa. LS; tan - dk bn, hd, blky, micxl, tr lith, rr fos, tt tru. Tr lse c gr , frost qtz grs.

LS; tan - lt bn, hd, blky, f - micxl, tr mot, fos, tt tru. SH; gy - dk gy - gy gn - pale gn, sft, plty occ splnt, tr carb, rr vgtd.

LS; tan - mlky wh - lt bn, frm - hd, blky, micxl, occ brittle, rthy tex, tr fos, tt tru. SH; gy - dk gy - blk, cont aa. SS; rr tr only, lt gy, v fri, v f gr, sil, tt, NFSOC.

LS; off wh - lt tan, frm - hd, f - micxl, com fos ip, n vis por, NSOC. SH; gy - lt gy - dk gy, frm, plty, sbfis, tr blk carb.

Keyes 8210' (-2738')

SS; tr only, wh - lt gy, fri - frm, f - v f gr, sbang, w srtd mod w con, scat glau pel pred sil / spty wh cly mtx, n- p vis por, spty lt tan stn, bgt yel flor fr strmg cut. LS; mlky wh - off wh, frm - sft, f - micxl, com rthy, tt tru. SH; cont aa.

LS; wh - mlky wh - lt tan, frm - sft, f - mic xl, occ mic fos frags, tt tru. SH; gy - dk gy - gy gn, sft, plty, tr vgtd, rr carb. SS tr only cont aa NFSOC.

LS; cont aa, tr mic suc tex, pos dolomitic ip. tt tru. SS; mlky wh - lt gy, frm - fri, f gr, sbang, w srtd and con, sil, pred / scat f gr glau pel, occ p inter gr por spotty yel flor, NSOC. SH; cont aa.

Mississippian 8240' (-2738')

LS; tan - lt bn, frm, f - micxl, pred rthy mot, occ clky ip, tr fos, tt tru. SH; gy - lt gy - gy gn, frm - sft, plty, tr splnt occ sbwxy rr vgts, tr carb. SS; wh - lt gy, cont aa, NSOC.

LS; wh - off wh, frm - sft, fxl, com fos, occ lse c fos frags, tr glau, tt tru. SH; cont aa

Spergen 8253' (-2751')

LS; tan - lt bn, frm - hd, f - micxl, com wh, fos, cont aa, tt tru. SH; gy - lt gy - gy gn - lt gn, sft, plty, sbfis, occ sbwxy, vgtd. DOL; tr only; tan - lt bn, frm - hd, sbblky, pred f - mic gran tex tr suc tex, tt, n vis por, NFSOC.

LS; tan - lt bn - off wh; frm, fxl, com mot, fos, tr lt gn cly prtgs, tr lt bn / lith tex, tt tru. SH; cont aa.

Warsaw 8303' (-2801')

LS; mlky wh - off wh - tan, frm - hd, micxl, com / lith tex, tr mot, fragm, tr sdy ip, tt tru. SH; gy - dk gy - gy gn, frm - sft, plty, tr carb.

Osage 8330' (-2828')

LS; wh - tan, cont aa. DOL tr only. tan - v lt bn, frm - hd, f - v f xln, pred f - mic gran tex, rr suc, n - p vis por, NFSOC. SH; cont aa.

DOL: lt bn - tan, frm - hd, tr fri, fxl, com mic gran - mic suc tedm rr / p intrxl por, com / v f rhombic xls, tr thn wh xln calcite strgs, occ spty yel flor, n stain or odor.

DOL, lt bn - tan frm - hd, sbblky, mic - f xl, com f - mic gran tex, tr suc, com / mic rhombic xls, n - p vis por, spty yello por NSOC.

DOL; cont aa. SS, tr only. Mlky wh - clr, v cln, frm - hd, f - lwr m gr, sbrd occ w rd, p srtd, w con, sil, n - p inter gr por, NFSOC.

SS; tr only, wh - mlky wh, frm - hd, f - lwr m gr, sb ang - sbrd, p srtd, w con, pred sil / tr spty wh cly mtx. tt tru.

E-Logs by Weatherford