

GRAND MESA

OPERATING COMPANY

(316) 265-3000
FAX: (316) 265-3455

1700 N. WATERFRONT PARKWAY
BLDG. 600
WICHITA, KANSAS 67208-5514

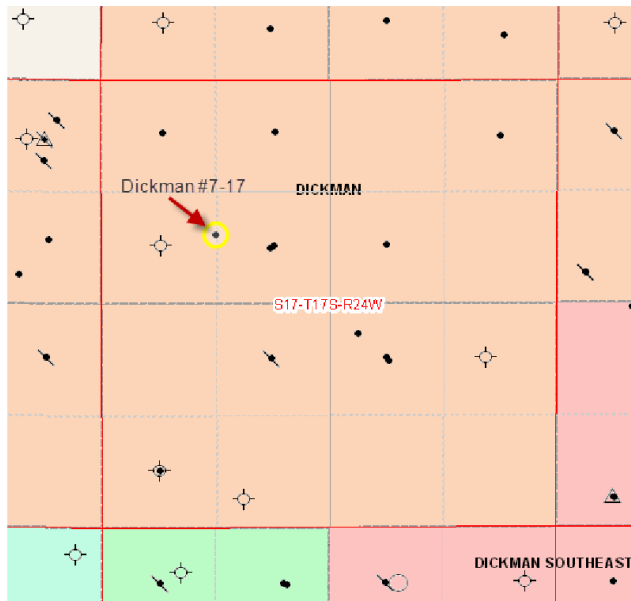
Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: DICKMAN #7-17
Location: 1830' FNL, 1335' FWL, 17-17s-24w, NESS County, Kansas
License Number: API: 15-135-25361 Region: NESS County
Spud Date: 02/21/2012 Drilling Completed: 03/01/2012
Surface Coordinates: Lat: 38.5751254
Long: -100.0059947
Bottom Hole Vertical hole
Coordinates:
Ground Elevation (ft): 2464' K.B. Elevation (ft): 2469'
Logged Interval (ft): 3600' To: RTD Total Depth (ft): 4500'
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical

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

GEOLOGIST

Name: Kent R. Matson
Company: Matson Geological Services, LLC
Address: 33300 W. 15th Street S.
Garden Plain, Kansas 67050
316-644-1975



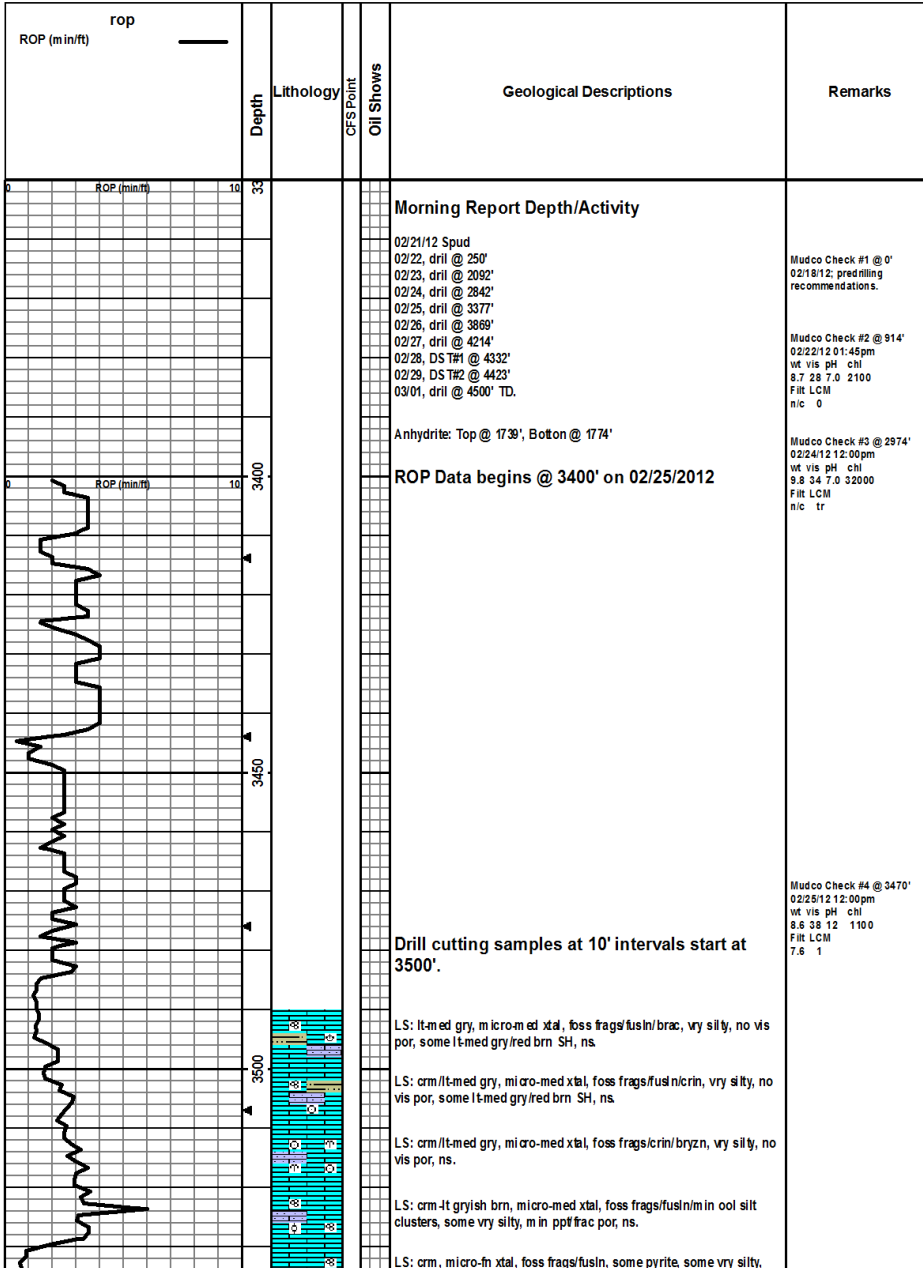
COMMENTS

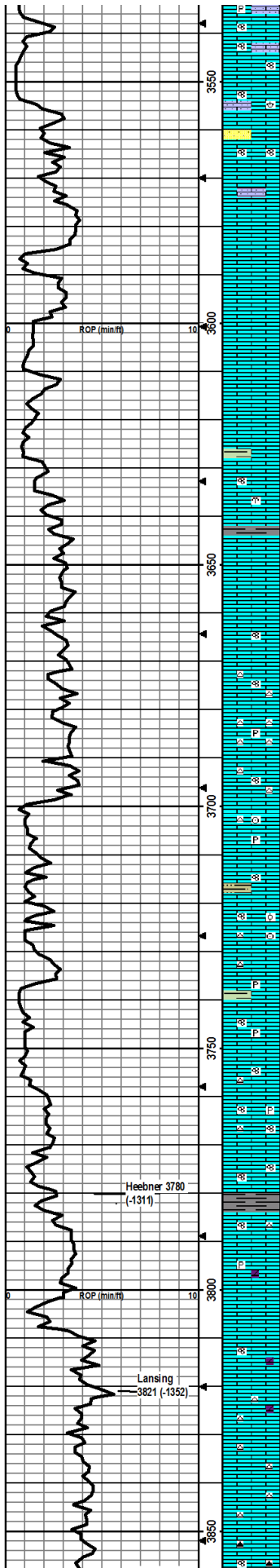
Contractor: Mallard J.V. Inc. Rig #1
Pusher: Lavon Urban
Surface Casing: 8 5/8" set at 212' (KB) w/150sx concrete
Production Casing: Production casing (5 1/2") was installed to RTD.
Mud by: MudCo
DST's by: Diamond Testing
Logs by: Superior Well Services (DIL, CN-CD, ML)
RTD= 4500'
LTD= 4499'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Heebner Shale	3780'	-1311	3779'	-1310
Lansing	3821'	-1352	3820'	-1351

Stark Shale	4055'	-1586	4053'	-1584
Hushpuckney Shale	4089'	-1620	4087'	-1618
Marmaton	4155'	-1686	4156'	-1687
Excello Shale	4310'	-1841	4310'	-1841
Fort Scott	4317'	-1848	4315'	-1846
Mississippian	4401'	-1932	4399'	-1930
RTD	4500'	-2031		
LTD			4499'	-2030





min ppt/frac por, ns

LS: crm -lt brn/lt gry, m micro-fn xtal, foss frags/fusln, som e vry silty, min ppt/frac por, ns.

LS: crm/lt gry, m micro-fn xtal, foss frags/fusln/brac, some vry silty, min frac por, ns.

LS: lt gry/crm, micro-fn xtal, foss frags/fusln, som e gry silt/sand stn pcs pred qtz w/pyrite, LS crushes easily, m in frac por, ns.

LS: crm/lt gry w/dk gry m otting, micro-fn xtal, foss frags, some vry silty pcs, m in frac por, ns

LS: crm, micro-fn xtal, foss frags, silty, no vis por, ns.

LS: crm/lt gry, m micro-fn xtal, some foss frags, no vis por, ns.

LS: crm -lt brn/lt gry, m micro-fn xtal, foss frags, som e vry silty, min in-xtal por, ns

LS: crm -lt brn, micro-fn xtal, foss frags, some vry silty, no vis por, ns.

LS: crm -lt gryish crm, micro-fn xtal, min foss frags, silty, some greenish gry-gry soft SH, min in-xtal/frac por, ns

LS: crm -lt brn, micro-fn xtal, foss frags/fusln/bryzn, no vis por, ns.

LS: crm -lt gryish brn, micro-fn xtal, foss frags, few pcs med-dk gry/blk firm-hard SH, min ppt por, ns

LS: crm, micro xtal, min frac por, ns.

LS: crm -lt brn, micro-fn xtal, min foss frags/few fusln, some stly silty, crushes easily, min frac por, ns.

LS: crm -lt brn, micro-fn xtal, foss frags w/m in fusln, lt gry chert, m in frac por, ns.

LS: crm -lt gryish brn, micro-med xtal, min foss frags, stly pyritic, abund lt gry/lt brn chert, m in frac por, ns

LS: crm -lt brn, micro-fn xtal, min foss frags/fusln, wht/lt gry chert, no vis por, ns.

LS: crm -lt gryish brn, micro-fn xtal, min foss frags/crin, stly pyritic, lt gry chert, no vis por, ns.

LS: crm -lt brn/med gryish brn, micro-fn xtal, min foss frags/fusln, some lt-med gry silty SH, min frac por, ns

LS: crm -lt brn, micro-fn xtal, foss frags/min fusln and crin min ool clusters, m in wht chert, no vis por, ns

LS: crm -med brn, micro-med xtal, foss frags, stly pyritic, min wht/lt gry chert, some gryish green-dk gry firm SH, no vis por, ns

LS: crm -lt brn, micro-fn xtal, min foss frags/fusln, min wht/lt gry chert, no vis por, ns.

LS: crm -lt brn, micro-fn xtal, min foss frags/fusln, min lt brn chert, min in-xtal por, ns.

LS: crm -lt gryish brn, micro-fn xtal, foss frags/fusln, min lt gry chert, some vry silty/sdy pcs, stly pyritic, min in-xtal por, ns.

LS: lt gry/crm-med brn, m micro-med xtal, foss frags/fusln, m in in-xtal por, ns.

SH: blk, carb, firm, fissile

LS: crm -lt brn, micro-fn xtal, foss frags/min fusln, min lt gry chert, no vis por, ns.

LS: crm -lt brn, micro-fn xtal, min foss frags, min lt gryish brn Dolo, stly pyritic, no vis por, ns

LS: crm -lt gryish brn, micro-fn xtal, min foss frags, som e vry grainy, no vis por, ns

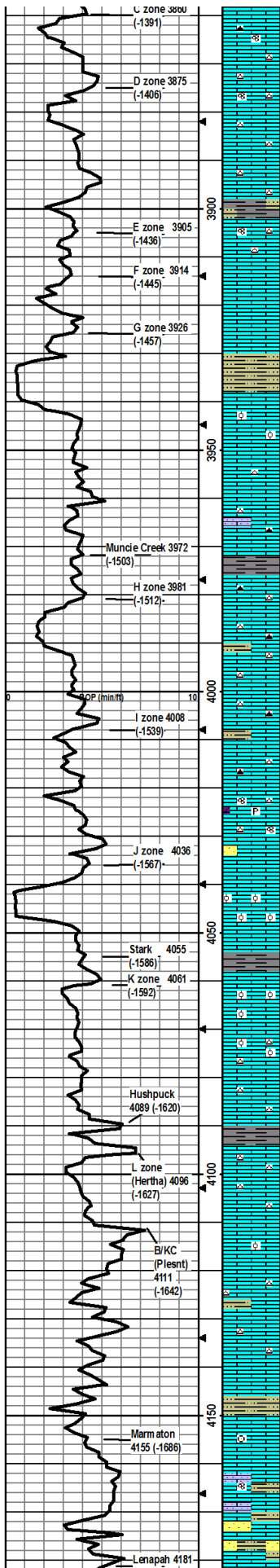
LS: crm -lt brn, micro-fn xtal, min foss frags/fusln, som e vry grainy, min brn Dolo, no vis por, ns

LS: crm, micro-fn xtal, min foss frags, wht/lt brn chert, m in brn Dolo, no vis por, ns

LS: crm/lt gry, m micro-med xtal, som e vry grainy, wht/lt brn chert, no vis por, ns.

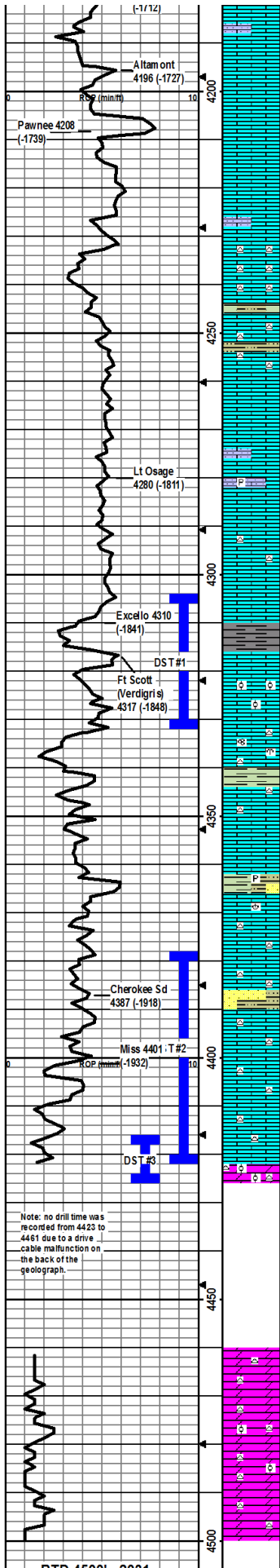
LS: crm -lt brn/lt gryish brn, micro-med xtal, lt brn-brn chert, no vis por, ns.

LS: crm -brn/gry, m micro-med xtal, min foss frags/fusln, dk brn/blk chert, no vis por, ns.



LS: crm-brn, micro-med xtal, min foss frag/fusln, lt brn-dk brn chert, min in-xtal por, ns.
 LS: crm-lt gryish brn, micro xtal, min foss frags/fusln, some wht chert, no vis por, ns.
 LS: crm-brn/gryish brn, micro-fn xtal, min foss frags, wht/lt brn chert, no vis por, ns.
 LS: crm, micro xtal, some wht chert, no vis por, ns.
 SH: med-dk gry, silty, carb, soft-firm, fissile
 LS: crm-lt gryish brn, micro-fn xtal, min foss frags/fusln, min brn Dolo, lt gry chert, no vis por, ns.
 LS: crm, micro xtal, grainy, some wht chalky pcs, no vis por, ns.
 Same as above.
 SH: med-dk gry/gryish green, red brn w/green mottling, carb, some vry silty, firm, fissile
 LS: crm, micro-fn xtal, min foss frags, some ool pcs w/solid matrix, some silty pcs, min lt gry chert, no vis por, ns.
 LS: crm-brn/lt gry, micro-fn xtal, min foss frags, some wht-lt brn chert, min in-xtal por, ns.
 LS: crm-brn/gry, micro-fn xtal, min foss frags, some vry silty, some lt-dk brn chert, mostly dense w/few pcs w/oo-castic por, ns.
 SH: dk gry/blk, stly carb, firm, fissile.
 LS: crm-lt brn, micro-fn xtal, min foss frags, wht/dk gry chert, no vis por, ns.
 LS: crm-brn/gry, micro-med xtal, min foss frags, some wht chert, min in-xtal por, some med-dk gry/greenish gry firm silty SH, ns.
 LS: crm-lt brn, micro xtal, some wht/dk gry chert, min in-xtal por, some dk gry and mustard yell soft silty SH, ns.
 LS: crm-lt gryish brn, micro xtal, some silty pcs, wht/dk gry chert, no vis por, ns.
 LS: crm/brn, micro-med xtal, some foss frags/fusln, wht/lt brn chert, min lt gry Dolo, stly pyritic, min frac por, ns.
 LS: crm-lt brn, micro-fn xtal, min foss frags/fusln, some vry silty pcs, few pcs gry/yel SS pred qtz, min frac por, ns.
 LS: crm-lt brn, micro-med xtal, abund ool, good vug ool-castic por, some wht soft chalky pcs crush easily, ns.
 LS: crm/lt gry, micro-fn xtal, silty, no vis por, ns.
 SH: med-dk gry/blk/greenish gry, carb, firm, fissile
 LS: crm-lt brn, micro-med xtal, foss frags w/some pcs w/abund ool, some w/no por, some pcs w/good ool-castic vug por, ns.
 LS: lt gry/crm-lt brn, micro-fn xtal, min foss frags, some ool pcs, wht chert, mostly dense w/min ool-castic vug por, ns.
 LS: lt gry/crm-brn, micro-fn xtal, min foss frags, wht/lt gry/lt brn chert, no vis por, ns.
 SH: med-dk gry, carb, silty, soft-firm, fissile
 LS: lt gry/crm-brn, micro-fn xtal, min foss frags, wht chert, no vis por, ns.
 LS: crm, micro-fn xtal, min foss frags, wht/lt gry chert, some soft wht chalky pcs, min frac/in-xtal por, ns.
 LS: crm/dk brn/lt gry, micro-med xtal, min foss frags/min ool, mostly dense w/some oo-castic vug por, ns.
 LS: crm/lt gry, micro-fn xtal, min foss frags, silty/grainy, wht chert, some greenish gry/gry silty soft-firm SH, min frac/in-xtal por, ns.
 LS: crm-lt gryish brn, micro-fn xtal, min foss frags, silty, wht chert, min frac/in-xtal por, ns.
 LS: crm-lt brn, micro xtal, min frac/in-xtal por, ns.
 SH: med-dk gry/greenish gry/red brn, vry silty/sdy, soft-firm, fissile.
 LS: lt gryish crm, micro-fn xtal, foss frags/min crin, no vis por, ns.
 LS: crm/lt gry, micro-fn xtal, min foss frags/fusln, vry silty, no vis por, fld of SH: lt-med gry/red brn, vry silty w/some pred sd, ns.
 LS/SH/SS mix: SH is lt-dk gry/brn-red brn, soft-firm, vry silty, carb; LS is crm-lt brn/gry, micro-xtal, foss frags, silty, no vis por, ns; SS is vlg, ws, pred qtz, vry friable.

Mudco Check #5 @ 3894'
 02/26/12 08:15am
 wt vis pH chl
 9.1 40 110 2200
 Fin LCM
 7.6 1



LS: crm, micro-fn xtal, min foss frags, some vry silty, min wht chaly pcs, some frac por, ns.

LS: crm/lt gry w/some dk brn min staining, micro-fn xtal, some sty silty, min frac por, ns.

LS: lt gry, micro xtal, dense, no vis por, ns.

LS: crm/lt gry/w/some dk brn min staining, micro xtal, no vis por, ns.

LS: lt gryish crm/brn, micro xtal, some vry silty, min frac por, ns.

LS: wht/crm/lt gryish brn, micro xtal, some sty silty, abund lt brn/some w/orange mottling chert, no vis por, ns.

SH: lt-dk gry/greenish gry/red brn, carb, some vry silty, firm brittle, fissile.

LS as above but flood of SH in tray.

LS: crm/lt gry, micro-fn xtal, m in foss frags, dense, no vis por, ns.

LS: crm/lt gry w/some orange staining, micro-fn xtal, some vry silty pcs, dense, no vis por, ns.

LS: same as above w/some vry sandy pcs some pyritic.

LS: crm/lt gry, micro-fn xtal, some e foss frags, some wht/orangish brn chert, some frac/in-xtal por, ns.

LS: crm, micro-fn xtal, silty, no vis por, ns.

SH: blk, firm, brittle, fissile.

LS: crm/lt gry, micro-fn xtal, m in foss frags, silty, ppt/fn in-xtal por, crush odor, yel flor and yel cut, 7 pcs of gsf.

LS: crm/lt gry, micro-fn xtal, min foss frags w/abund ool, sty silty, ppt/vug in-xtal por, cup odor, yel flor and yel cut, 5 pcs in 30" and 10 pcs in 60 m in smpls of gsf.

LS: crm-lt brn/gry, micro-med xtal, m in foss frag/crn/bryzn, lt brn chert, min frac por, ns.

LS: crm-brn, micro-med xtal, foss frags, lt brn chert, some greenish gry/med-dk gry firm sty silty SH, no vis por, ns.

LS: crm-lt brn, micro-fn xtal, some foss frags, some 2ndry re-xtalzn, min fn in-xtal por, slt crush odor, yel flor and yel cut, 2 pcs w/sfo.

SH: med-dk gry, red brn w/greenish gry mottling, some vry silty/sdy to SS degree pred qtz, some e pyritic, firm.

LS: crm, micro-med xtal, foss frags/brac, no vis por, ns.

LS: crm/lt gry, micro xtal, dense, lt brn/orangish brn chert, no vis por, ns.

LS: crm-lt brn, micro-fn xtal, min foss frags, orange brn chert, no vis por, ns.

SH: SS mx: SH is lt gryish green/med-dk gry/min mustard yel, vry silty, so n 4im: SS is wht sugery gry pred qtz, vry, friable, ns.

LS: crm-lt brn/lt gry, micro-fn xtal, m in foss frags, lt brn chert, min in-xtal por, no odor, 1 pcs w/sit yel flor, had to crush to get yel cut str, ssfo.

LS: crm/lt gry, micro-fn xtal, m in foss frags, lt orange brn chert vry gd ppt-vug por, strg cup odor, some oil show w/yel flor, some lt brn oil some dk gry-blk, approx 30-40% of tray pcs w/vgsfo.

LS: same as above. In both 30" and 60" smpls, approx 75% of tray pcs w/vgsfo.

DOLO: wht/crm/lt brn, micro-med xtal, some grainy pcs, some lt brn chert, ool clusters in 60" smpl, gd fn-vug por, strg cup odor, some pcs w/lt brn oil w/yel flor, some e pcs w/dk gry-blk oil does not flor, approx 25-30% of tray smpls w/vgsfo.

Note: the depths for the samples collected from 4426-4460 were unknown due to a geolograph malfunction; therefore the samples were discarded and no discriptions are provided for these depths.

DOLO: lt gry/crm-lt brn, micro-fn xtal, grainy, some wht chert, gd fn-vug in-xtal por, strg cup odor, 25 pcs w/yel flor and vgsfo.

DOLO: lt gryish crm-crm, micro-med xtal, some pcs w/dk green min, wht chert, few ool nodes, some wht chalky pcs, strg cup odor, gd fn-vug por, yel flor, approx 25-30% of tray w/vgsfo.

DOLO: lt gry/crm, micro-course xtal, some pcs w/dk green min, wht chert, few ool pcs, strg cup odor, gd fn-vug in-xtal por, yel flor, approx 10-15% of tray w/vgsfo.

DOLO: crm, micro-med xtal, min dk green min, wht/lt yel chert, grainy, gd cup odor, ppt-fn in-xtal por, yel flor, <10 of tray w/sfo.

TD at 4500

Mudco Check #6 @ 4286'
02/27/12 01:45pm
wt vis pH chl
9.55 50 10.0 3200
FIR LCM
8.4 tr

DST1) 4304-4332
30456090
1st) Wk surf blow built to 9.5' in 30 min, vry wk surf BB.
2nd) Gd 2" blow built to BOB in 14 min, 1.5" BB
IF P 4-10# FFP 7-10#
ISIP 74# F SIP 74#
HP 2090-2095#
Recvd: 10' mud.

CFS @ 4332'
30"60"

Note: This Ft Scott top is a local pick and not equivalent to western Kansas (Equivalent to Verdigris).

Mudco Check #7 @ 4365'
02/28/12 12:35pm
wt vis pH chl
9.4 49 9.5 5400
FIR LCM
8.8 0

DST2) 4379-4423
30456090
1st) Wk 1.4" blw built to BOB in 24 min, vry wk surface BB.
2nd) Wk surface blw built to BOB in 33 min, no BB.
IF P 10-11# FFP
ISIP 114# F SIP
125-190# F SIP
114#
HP 2131-2130#
Recvd: 120' GIP, 135' CO, 65' GVHOC, 120' GVHOCM, 120' GOWCM.

Mudco Check #8 @ 4423'
02/29/12 12:30pm
wt vis pH chl
9.5 47 9.5 5400
FIR LCM
9.2 tr

CFS @ 4423'
30"60"

CFS @ 4426'
30"60"

DST3) 4416-4426
(Note: drive cable came off back of geolograph at 4423, which was not discovered until 4451 after it was thought that another 10' was drilled to 4433 for DST#3. Therefore only another 3' were drilled when DST#3 was conducted at 4426.)

30454560
1st) Wk 1" blw built to BOB in 7 min, 2" BB.
2nd) Wk 1/2" blw built to BOB in 9 min, 2" BB.
IF P 40-26# FFP
ISIP 114# F SIP
275-466# F SIP
114#
HP 2160-2150#
Recvd: 150' GIP, 480' GO, 65' GVHOC, 190' GVHOCM, 430' GSO&MCW

CFS @ 4500' 30"60". Cir total of 1.5 hrs to clean hole.

