

Covey

The Well Watchers

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

Well Name: GRASSLANDS #1
Location: Section 8 - Township 12 South - Range 32 West
Licence Number: 15-109-21,031. 0000 Region: Logan County, KS.
Spud Date: 7 Sept 2011 Drilling Completed:
Surface Coordinates: 1,860' FNL & 1,220' FEL , NE/4
(Approximately SW NW SE NE)
Bottom Hole Coordinates:
Ground Elevation (ft): 3,009 K.B. Elevation (ft): 3,019'
Logged Interval (ft): 3,600' To: Total Depth (ft):
Formation: Stotler -----> Miss (St. Louis)
Type of Drilling Fluid: Chemical; Low Solids (non-dispersed)

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

OPERATOR

Company: NEW GULF OPERATING, LLC.
Address: 6310 East 102nd Street
Tulsa, Oklahoma 74137
(918) 728-3020
POC Geologist:
Joe Baker

GEOLOGIST

Name: Curtis Covey
Company: COVEY - The Well Watchers
Address: 6548 Bedford Circle
Derby, Kansas 67037
Office: (316) 776 - 0367 Cell: (316) 258-9976

KB: 3,019'

FORMATION TOPS

GL: 3,009'

Formation	Rotary Sample Depth (Datum)	E-log Depth (Datum)
Anhydrite	2,541' (+478')	
B / Anhydrite	2,564' (+455')	
Stotler	3,622' (-603')	
Topeka	3,752' (-733')	
Heebner Shale	3,976' (-957')	
Lansing	4,027' (-1,008')	
Muncie Creek SH	NC	
Stark SH	NC	
B / KC	4,330' (-1,311')	
Pawnee LS	4,454' (-1,435')	
Cherokee Sh	4,535' (-1,516')	
'Johnson' Zone	4,568' (-1,549')	
Morrow Sandstone		
Miss (Erosional)		

Loggers:

RTD: LTD: ATD: E-log is to rotary sample depth, uphole.
E-log is to rotary sample depth, mid- & down hole sample logged interval.

DST #1 - LANSING

Rotary Depth: 4,070' - 4,126'
Logger's Depth:

Recovery: 690' Muddy Wtr (2%M, 98%W)
Gas bubble in wtr - gone by grind
Total Fluid: 690'

Recovery Water: (59,000 ppm)
System Water: (2,400 ppm)

IFP: 23# - 134# / 30"
ISIP: 1,137# / 45"
FFP: 147# - 327# / 60"
FSIP: 1,137# / 90"
120 deg F
MH: 1,964# - 1,962#

IF: BOB in 11 minutes.
ISI: No Blow back.
FF: BOB in 14.5 minutes.
FSI: No Blow Back.

Recovery Water (Engineer): NA

Reported Rw =
0.18 ohms @ 55 deg F

Diamond Testing ... Hoisington, KS.

2011

DAILY DRILLING STATUS -- SEPTEMBER

2011

12-1/4" Hole

7-7/8" Hole

7-7/8" Hole

7 Sept --- Spud @ 6pm.
Drill to 268'.
Run 8-5/8" casing (23#)
Set casing @ 267'.
8 --- Cemented w/ 200 sx Class A
(2% Gel + 3% CC).
[Allied]
Cement did circulate.
Plug down @ 1:45am.
WOC.

8 Sept --- WOC.
6:30am @ 268'.
Under surface casing @ 4:15pm.
9 --- 6:30am @ 1,415'.
10 --- 6:30am @ 2,420'.
11 --- 6:30am @ 3,080'.
Displace Mud @ 3,402'.
12 --- 6:30am @ 3,545'.
13 --- 6:30am @ 4,040'.
Start and
14 --- Finish DST #1: Lansing
(4,070'-4,126').
6:30am @ 4,126'.
Resumed Drilling @ 8:30am.
Drill to 4,383' ... T/O 4 rows ...
Work on Mud Pump.

15 Sept --- 6:30am @ 4,383'. Work on
Mud Pump.
16 --- Start
6:30am @ 4,600'.
Finish DST #2: Johnson
Zone (4,530'-4,600')

HOLE DEVIATION 268' - '))

DEPTH / TVD	INCLINATION	AZIMUTH	NORTH	SOUTH	EAST	WEST	DOGLEG deg/100'
268' /	--- 0.50 (Surface)						
1,197' /	--- 0.75						
2,191' /	--- 1.25						
3,191' /	--- 1.00						
4,122' /	--- 1.00 (DST #1)						

STRAP @ DST #1

Board: 4,130.01'
Strap: 4,137.37'
Diff: 7.36'

CONTRACTOR

VAL Energy --- Rig #4

10,500 E. Berkeley Square Parkway, Suite 1000
Wichita, Kansas 67230
Office: (316) 636-2090

Rig #4 - (620) 617-2793

Larry Hinderliter - (620) 804-0097

Pump: National K-500A
6" x 15" @ 58 SPM.
800 PSI @ Standpipe.

Uphole Hole:
WOB 35M @ 80 RPM.

After Mudup / Main Hole:
WOB 38M @ 75 RPM.

Drill Collars: 6-1/8" x 2.50" --- 524'. (83.5#/ft)
Dry Collar Weight: 45,754#
(@ 8.8 ppg / Buoyancy Factor 0.866)
Bouyancy Collar Weight: 37,891#
Design Factor: 15%, therefore:
available WOB is 32,207#
Drill Pipe: 4-1/2"XH. (16#/ft - used)

BIT RECORD

DATE	SIZE	TYPE	JET SIZE	DEPTH IN / OUT	CUM. FT.	HOURS	ROP
7 Sept 2011	12-1/4"	REED RR	3 / 15's	0' / 268'	268'	1.75	153.1
8 Sept 2011	7-7/8"	JZ QX-21S	13 - 14 - 13	268' / '			

ROCK TYPES

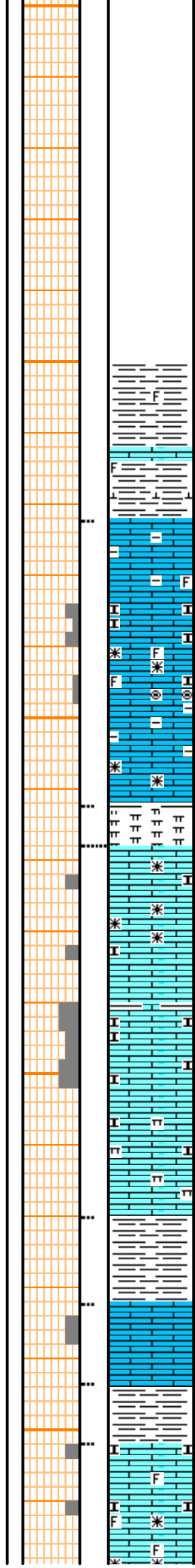
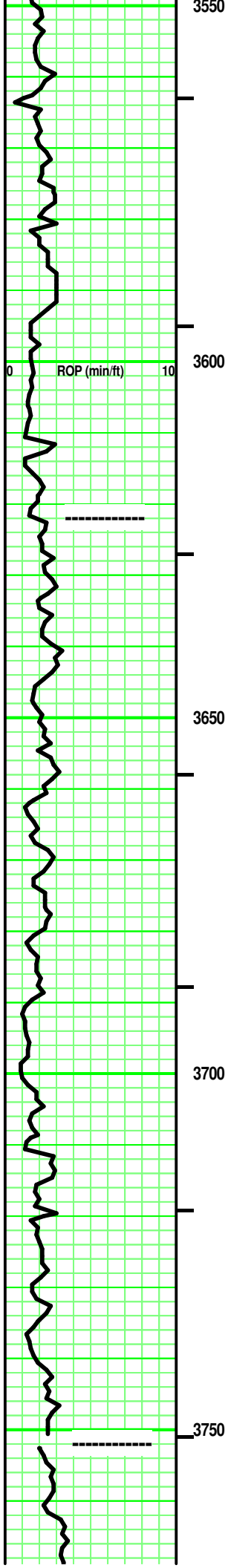
POROSITY 	LITHOLOGY 		MINERAL 		
				STRINGER 	SHOW

ACCESSORIES

FOSSIL 		MINERAL 			
				STRINGER 	

OTHER SYMBOLS

ACTIVITY 			
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Interbedded SH & LS

SH - Lt & Med Gray. tr Tannish Gray to rare Brownish Gray. tr limy streaks. some calc in part. rare fossil frag. soft.

LS - Tan/ tr Pale Gray, some Lt Gray. Sing. XF-/ Micro-xln. xln por. tr subchalky in part. tr argil in part. misc fossil frags & micro-Oolites. partly Firm. No/ tr vis por.

MARL - Grays. Hi argil/shaly at top. soft.

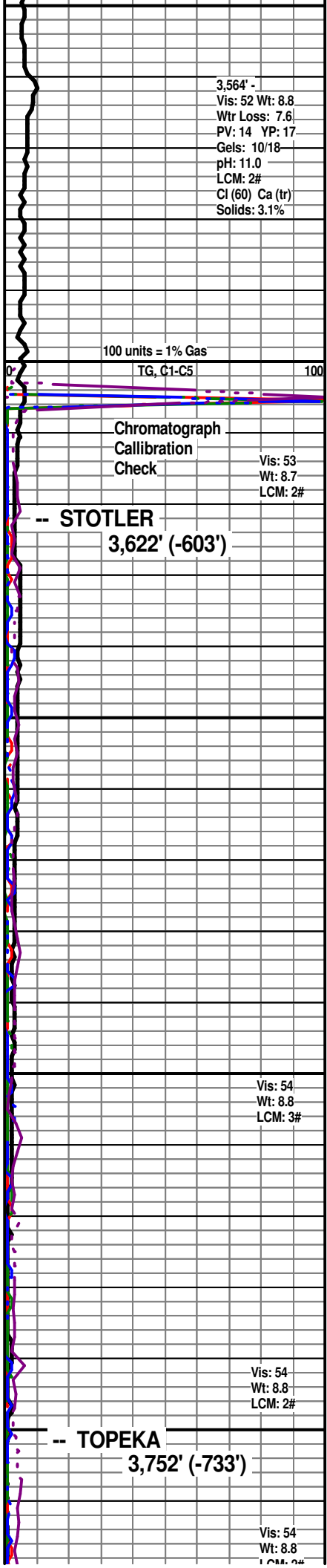
Interbedded SH & LS

SH - Lt & Med Gray. tr/ some Tannish Gray. tr/ some limy streaks. some calc in part. soft.

LS - Tans / tr Pale to Lt Grays. Sing. XF-/ some Micro-xln. xln por. rare Re-xln. tr argil in part. subchalky & marly in part and intermixed. No/ tr vis por.

SH - Lt/ Med Gray. Sing. highly limy (Tannish & Pale Gray) to LS stringers (Tan, Micro-xln).

LS - Grays/ Tans. Sing/ some to mostly Mot. XF-/ mostly Micro-xln. xln por. some to lots of subchalky/ chalky. tr/ fair fossil frags in part. some intermixed/ interbedded argil or shale (Med/Dark Gray). Firm. No/ tr vis por.



3,564' -
Vis: 52 Wt: 8.8
Wtr Loss: 7.6
PV: 14 YP: 17
Gels: 10/18
pH: 11.0
LCM: 2#
Cl (60) Ca (tr)
Solids: 3.1%

Chromatograph
Calibration
Check

Vis: 53
Wt: 8.7
LCM: 2#

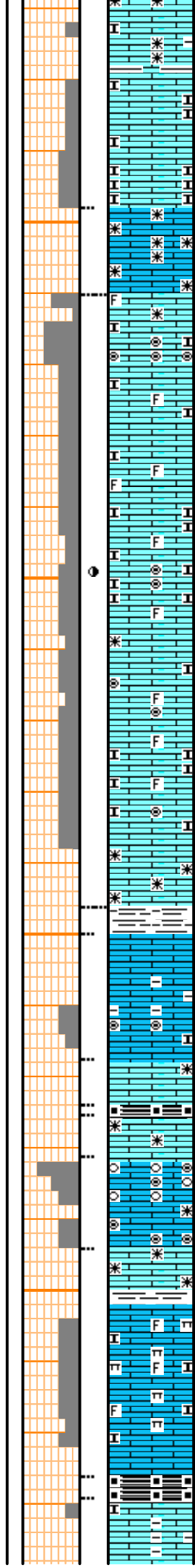
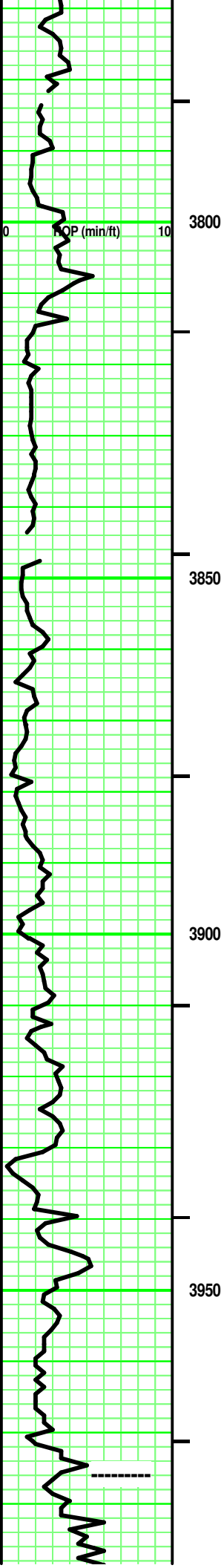
-- STOTLER
3,622' (-603')

Vis: 54
Wt: 8.8
LCM: 3#

-- TOPEKA
3,752' (-733')

Vis: 54
Wt: 8.8
LCM: 2#

Vis: 54
Wt: 8.8
LCM: 2#



LS - Tans. Mot. XF-xln. xln por. Re-xln. Firm. No/ tr vis por.

100 units = 1% Gas
TG, C1-C5 100

Intermixed & Interbedded:

LS - tr Pale/ mostly Lt/ rare Med Gray, Tans. tr Tannish Pale Gray. some Sing/ mostly Mot. VF-/ XF-/ Micro-xln. xln por. some subchalky/ marly. argil/shaly. rare/ tr fossil frags. partly Firm. No/ tr/ rare Fair vis por.

Vis: 53
Wt: 8.8
LCM: 2#

LS - Lt/ Med Tan. Sing. XF-/ Micro-xln. xln por. some Re-xln. some argil/shaly in part. Firm. No/ tr vis por.

Add: Tan. Sing. Chalky. tr Oolites frags. Friable. No/ tr vis por. Spotted Med Brown stain (along chalk fracture facies). Nothing else.

SH - Grays. Sing. tr calc to limy in part. some Firm. Blocky.

Add: VF Oolites/ Oolcasts. Clear/ Lt Tan, semitransparent Matrix.

SH - Med Gray. Sing. soft.

Vis: 55
Wt: 9.0
LCM: 2#

LS - Tans/ tr Lt Gray. Sing. XF-/ some Micro-xln. xln por. tr Re-xln. some 'ghost' Micro-Oolites in subchalky matrix. Friable in part. mixture of No/ tr and Fair vis por.

LS (1) - Tan. Sing. Micro-xln. xln por. tr Re-xln. Firm. No/ tr vis por.

SH - Black. Sing. Carb. Soft.

LS - similar to LS (1) above.

LS - Tan/ Tannish Off White tr XF/ mostly Micro-Oolites/ Micro-Oolcastic. some fossil hash. Clear/ to semi-transparent matrix. Friable. Good vis por.

LS - Tan. Sing. Micro/ Crypto-xln. xln por. Dense. No vis por.

SH - Lt/ Med Gray. Sing. ductile to Firm.

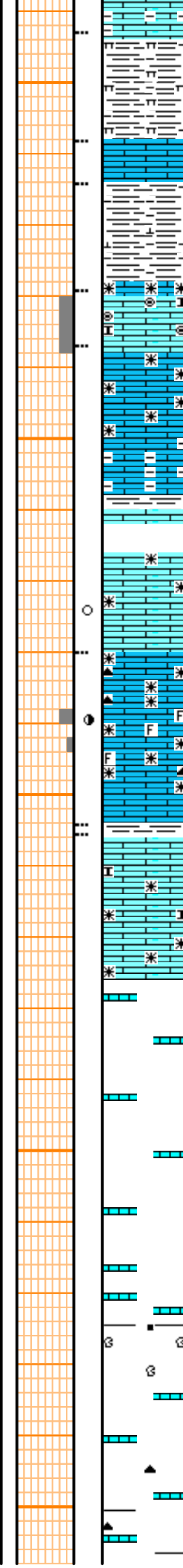
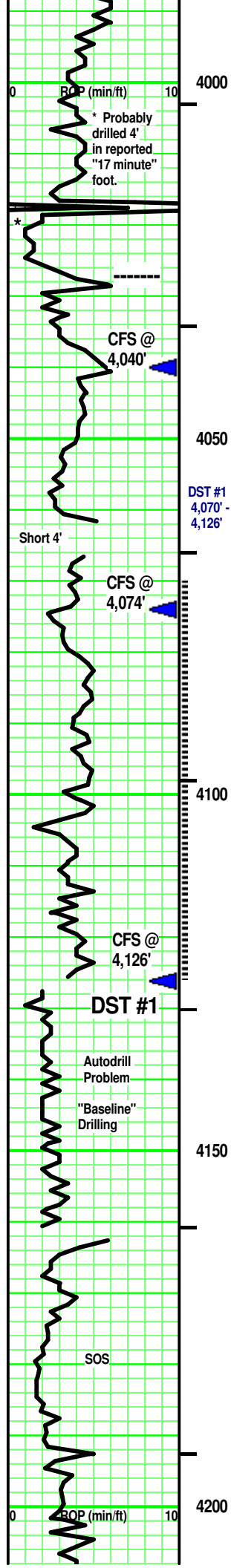
Vis: 65+
Wt: 9.0
LCM: 2#

LS - Tans/ some Pale Lt Gray, tr Off White. Sing/Mot. Micro-xln. xln & some part por. Subchalky. some fossil frags. some argil. tr marly in part. Friable. Tr/ Fair vis por.

SH - Black. Sing. Carb. Soft.

LS - Lt Gray. Sing. Micro-xln. xln por. rare subchalky. No/ tr vis por.

-- HEEBNER SH
3,976' (-957')



SH - Med Gray. Sing. Hi marly. Firm. Massive.

LS - Off White/ Tan. Sing/ tr Mot. Micro-xln. xln por. mostly Firm. No/ tr vis por

SH - Lt Gray. Sing. tr calc.

LS - Off White/ Tan. Sing/ tr Mot. Micro-xln. xln & tr Vuggy por. [some VF Oolites in part, Off White. Clear/ Pale Tan, semitransparent Matrix. Friable. Tr vis por.] some Re-xln. rare subchalky in part. mostly Firm. No/ tr vis por.

LS - Tans/ tr Lt Gray with depth. Sing/ tr Mot. XF-/ some Micro-xln. xln por. tr Re-xln. Firm at top. No/ tr vis por.

SH - Med Gray. Sing. tr calc.

3 pcs: LS - Tan. Sing. Micro-xln. xln & rare vuggy calc filled por. tr Re-xln. Firm. No/ tr vis por. tr/ some spotted Lt/Med Brown stain rimming vuggy por. Northing else.

LS - Tan. Sing. XF-xln. xln and some XF vuggy por. some minute Re-xln. [tr/ some CHERT - Gray/ Dark Tan. Sing. Opaque. tr misc inclusions. No tripolitic.] some fossil frags. mostly Firm. tr/ fair vuggy por in part. Faint odor. rare/ Spotted yellow fluorescence. A/C, rare minute Dark Brown free oil spheres floating on wash water. rare gas bubble cling to rx chip. Spotted Med Brown stain. Pos cut/ residual. Pos acid/ residual. rare/ tr Black tarry oil on chert frac face.

SH - Med/ Dark Gray. Sing. Massive. soft.

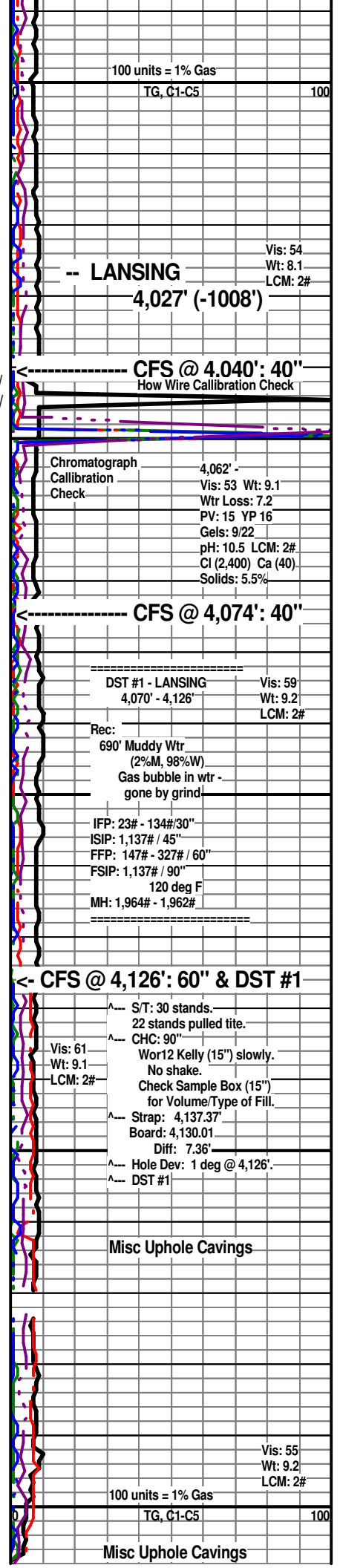
LS - Lt & Med Tan. Sing/ Mot. XF-/ Micro-xln. xln & particle por. tr Re-xln. rare subchalky in part. Firm. No/ tr vis por. No odo

Misc LS - Lt/ Med Tan. Sing/ tr Mot. XF-/ Micro-xln. xln por. subchalky in part. Friable in part.

4,180' & 4,190' Sample has SH - Black. sing. carb. few pcs: Black shale rimmed LS frags.

LS - Tans/ rare Off White. Sing. XF-/Micro-xln. xln por. some subchalky. tr Re-xln. [few pcs CHERT - Dark Tan/ some Med Tan. Sing. Opaque. No inclusions or tripolitic.] partly Firm. No/ tr vis por.

interbedd/ intermixed with SH - Med/ Dark Gray. Sing



100 units = 1% Gas
TG, C1-C5 100

Vis: 54
Wt: 8.1
LCM: 2#
-- LANSING
4,027' (-1008')

CFS @ 4,040': 40"
How Wire Calibration Check

Chromatograph
Calibration
Check
4,062' -
Vis: 53 Wt: 9.1
Wtr Loss: 7.2
PV: 15 YP 16
Gels: 9/22
pH: 10.5 LCM: 2#
Cl (2,400) Ca (40)
Solids: 5.5%

CFS @ 4,074': 40"

DST #1 - LANSING
4,070' - 4,126' Vis: 59
Wt: 9.2
LCM: 2#

Rec:
690' Muddy Wtr
(2%M, 98%W)
Gas bubble in wtr -
gone by grind

IFP: 23# - 134#/30"
ISIP: 1,137# / 45"
FFP: 147# - 327# / 60"
FSIP: 1,137# / 90"
120 deg F
MH: 1,964# - 1,962#

CFS @ 4,126': 60" & DST #1

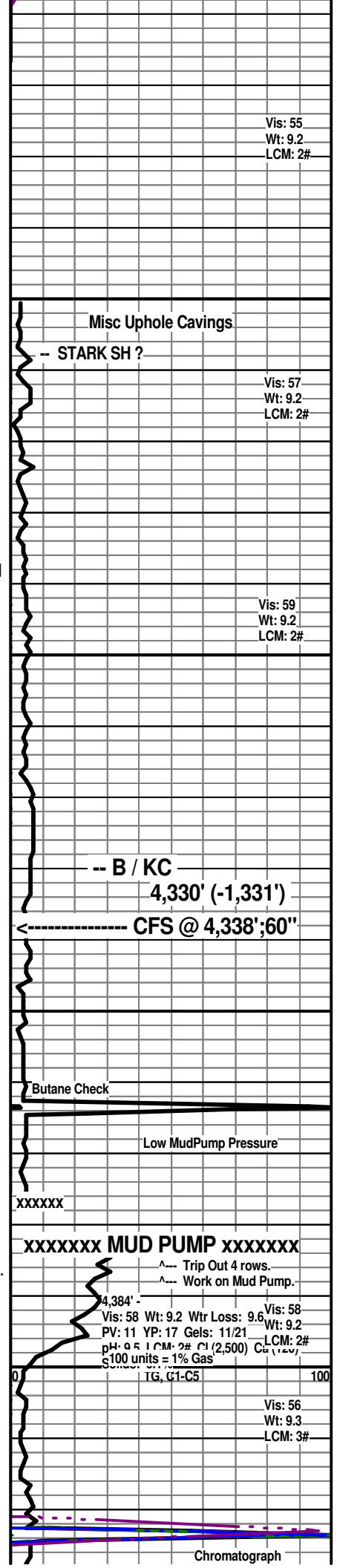
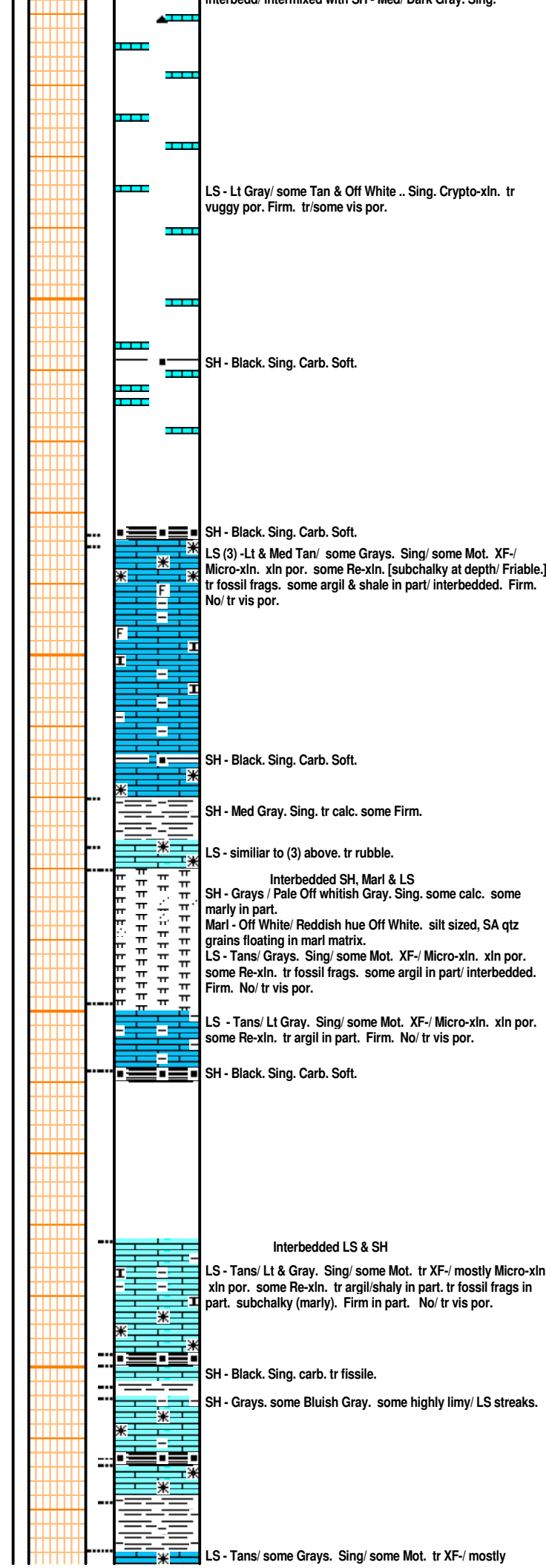
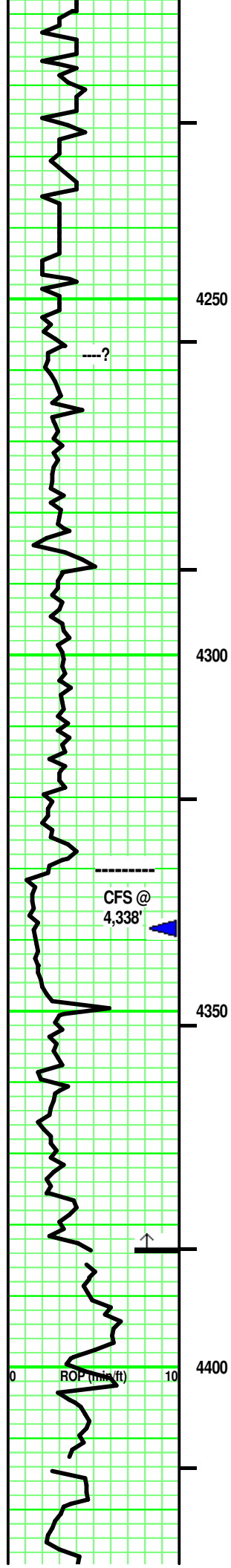
S/T: 30 stands.
22 stands pulled tite.
CHC: 90"
Wor12 Kelly (15") slowly.
No shake.
Check Sample Box (15")
for Volume/Type of Fill.
Strap: 4,137.37'
Board: 4,130.01'
Diff: 7.36'
Hole Dev: 1 deg @ 4,126'.
DST #1

Misc Uphole Cavings

Vis: 55
Wt: 9.2
LCM: 2#

100 units = 1% Gas
TG, C1-C5 100

Misc Uphole Cavings



CFS @ 4,338'

-- B / KC
4,330' (-1,331')

CFS @ 4,338';60"

xxxxxxx MUD PUMP xxxxxxxx

4,384'

Vis: 58 Wt: 9.2 Wtr Loss: 9.6 Vis: 58
PV: 11 YP: 17 Gels: 11/21 Wt: 9.2
pH: 9.5 LCM: 2# C (2,500) C₁(14.4)
S₁₀₀ units = 1% Gas

Vis: 56
Wt: 9.3
LCM: 3#

Chromatograph

