

MUD LOG
WellSight Systems
Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Waugh A #1
Location: Sec. 7-T15S-R12E Wabunsee County, KS
License Number: 15-197-20293-0000
Spud Date: October 17, 2011
Surface Coordinates: 1230' FSL & 2570' FEL
Region: Wildcat
Drilling Completed: October 26, 2011

Bottom Hole
Coordinates:
Ground Elevation (ft): 1319' K.B. Elevation (ft): 1327'
Logged Interval (ft): 2250' To: 3144' Total Depth (ft): 3144'
Formation: Arbuckle
Type of Drilling Fluid: Chemical/Polymer/Gel

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

OPERATOR

Company: John O. Farmer, Inc.
Address: P.O. Box 352
Russel, KS 67665

GEOLOGIST

Name: Theodore Pfau
Company:
Address: 951 Arkansas, Apt. M4
Lawrence, KS 66044

John O. Farmer Inc.

DAILY DRILLING REPORT

Company: John O. Farmer Inc.
P.O. Box 352
Russel, KS 67665

Well: Waugh A #1
Location: 1230' FSL & 2570' FEL
Sec. 7-15S-12E
Wabunsee County

John O. Farmer IV off. 785-483-3144 cell 785-483-9204
Matt Dreiling off. 785-483-3144 cell 785-483-7835

Elevation: 1327' KB 1319' GL
Field: Wildcat
API: 15-197-20293-00-00
Surface Casing: set 305' KB

Geologist: Ted Pfau cell 913-461-3006

Drilling Contractor: Gulick Drilling, Inc.
Rig #1 620-583-0225

Toolpusher: Mike Stafford 620-583-2978

Date	7:00 AM DEPTH	REMARKS FROM LAST 24 HOURS
10/22/2011	2331	Geologist Ted Pfau on location @ 0630 hrs, 2320' Drilling ahead through Mississippian
10/23/2011	2625	Drilling ahead through Mississippian
10/24/2011	2905	Reached Kinderhook at 2660' @ 1200 hrs, reached Hunton 2797', fair oil show, reached Maqueoketa 2840'
10/25/2011	3023	Reached Viola at 2903' @ 0645 hrs, very good show, TOOH and conduct DST #1, successful DST, resume drilling Viola @ 2200 hrs
10/26/2011	3144	Reached Simpson dolomite 3009' and Simpson sand 3030' Good show, warrants DST, TOOH for DST #2, complete DST #2, test successful, rathole ahead to Arbuckle for logs, reached Arbuckle at 3084', TD at 3144', TOOH for logs, pipe to be run on Viola, geologist released 1330 hrs

DRILLING WELL Waugh A #1 1230' FSL & 2570' FEL Sec. 7-15S-12E 1327 KB					COMPARISON WELL Wheat Farm A#1 110' FNL & 2310' FEL Sec. 14-15S-11E 1397 KB Relationship			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Mississippian	2314	-987	2316	-989	2388	-991	4	2
Kinderhook	2660	-1333	2656	-1329	2769	-1372	39	43
Hunton	2797	-1470	2794	-1467	2909	-1512	42	45
Maquoketa	2840	-1513	2834	-1507	2962	-1565	52	58
Viola	2903	-1576	2900	-1573	3028	-1631	55	58
Simpson Dolo	3009	-1682	3006	-1679	3131	-1734	52	55
Simpson Sand	3030	-1703	3023	-1696	3148	-1751	48	55
Arbuckle	3084	-1757	3075	-1748	3197	-1800	43	52
TD	3144	-1817	3140	-1813	3232	-1835	18	22



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

JOF

7-15-12 Wabaunsee, Ks

370 W. Wichita Ave.
PO Box 352
Russell, Ks 67665
ATTN: Ted Plau

Waugh A #1

Job Ticket: 45170

DST#:1

Test Start: 2011.10.24 @ 13:33:17

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:04:17

Time Test Ended: 20:11:17

Test Type: Conventional Bottom Hole (Initial)

Tester: Brian Fairbank

Unit No: 41

Interval: **2895.00 ft (KB) To 2915.00 ft (KB) (TVD)**

Reference Elevations: 1327.00 ft (KB)

Total Depth: 2915.00 ft (KB) (TVD)

1319.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8734

Outside

Press@RunDepth: 107.87 psig @ 2897.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.10.24

End Date:

2011.10.24

Last Calib.: 2011.10.24

Start Time:

13:33:18

End Time:

20:11:17

Time On Btm: 2011.10.24 @ 15:02:47

Time Off Btm: 2011.10.24 @ 18:05:47

TEST COMMENT: IFP - weak blow throughout 1/4" - 3"

ISI - no blow back

FFP - no blow 5 min - 3"

FSI - no blow back

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1393.54	103.17	Initial Hydro-static
2	21.47	102.91	Open To Flow (1)
29	49.69	105.98	Shut-In (1)
61	943.33	107.27	End Shut-In (1)
62	53.50	106.92	Open To Flow (2)
119	107.87	108.14	Shut-In (2)
180	935.73	109.42	End Shut-In (2)
183	1358.44	109.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	V SOCM 5%O, 95%M	0.42
155.00	FREE OIL 95%O, 5%M	2.17

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcft/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

JOF

370 W. Wichita Ave.
PO Box 352
Russell, Ks 67665
ATTN: Ted Plau

7-15-12 Wabaunsee, Ks

Waugh A #1

Job Ticket: 45171

DST#:2

Test Start: 2011.10.25 @ 12:01:48

GENERAL INFORMATION:

Formation: **Simpson Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:53:18

Time Test Ended: 18:34:18

Test Type: Conventional Bottom Hole (Reset)

Tester: Brian Fairbank

Unit No: 41

Interval: **3013.00 ft (KB) To 3038.00 ft (KB) (TVD)**

Total Depth: 3038.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1327.00 ft (KB)

1319.00 ft (CF)

KB to GRVCF: 8.00 ft

Serial #: 8734 Outside

Press@RunDepth: 767.99 psig @ 3020.00 ft (KB)

Start Date: 2011.10.25

End Date:

2011.10.25

Capacity: 8000.00 psig

Last Calib.: 2011.10.25

Start Time: 12:01:49

End Time:

18:34:18

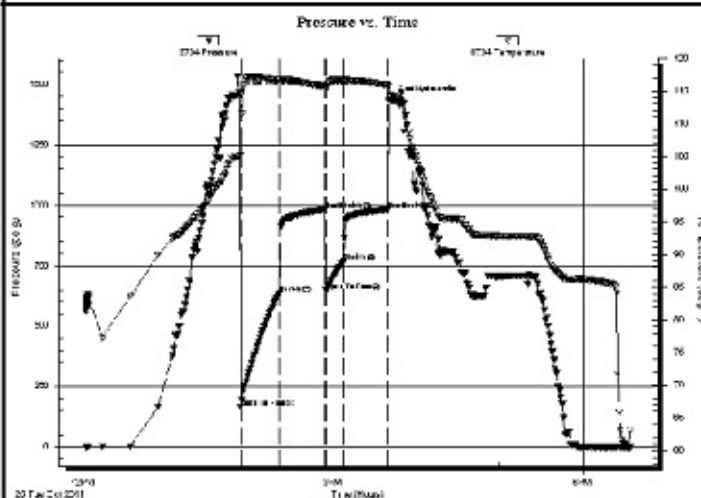
Time On Btm: 2011.10.25 @ 13:52:18

Time Off Btm: 2011.10.25 @ 15:42:18

TEST COMMENT: IFP - BOB 1 min
ISI - no blow back
FFP - BOB 1 min
FSI - no blow back

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1462.64	104.90	Initial Hydro-static
1	162.94	105.13	Open To Flow (1)
29	634.36	116.67	Shut-In(1)
62	982.85	115.62	End Shut-In(1)
63	646.41	115.34	Open To Flow (2)
76	767.99	116.56	Shut-In(2)
107	982.79	115.97	End Shut-In(2)
110	1434.56	114.07	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
380.00	MW 90%W, 10%M	1.88
1030.00	REVERSED OUT	14.45
250.00	W & OCM 20%W, 20%O, 60%M	3.51
30.00	MCO 70%O, 30%M	0.42

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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ROCK TYPES

INTERVALS

Core
Dst

LITHOLOGY

Anhy
Bent
Brec
Cht
Clyst
Coal
Congl
Dol
Gyp
Igne
Lmst
Meta
Mrlst
Salt
Sh-red
Sh-blk
Shale
Shcol
Shgy
Slstst
Ss

Till
gw
lmywash
ogw
olmywash
oshly gw
shly gw
sdygw
hvycrbsh
nosmpl
Lsdetrst
sltst
sdy sh
Cement

FOSSIL

Algae
Amph
Belm
Bioclst
Brach
Bryozoa
Cephal
Coral
Crin
Echin

Fish
Foram
Fossil
Gastro
Oolite
Ostra
Pelec
Pellet
Pisolite
Plant
Strom

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
a
b
c
z
s

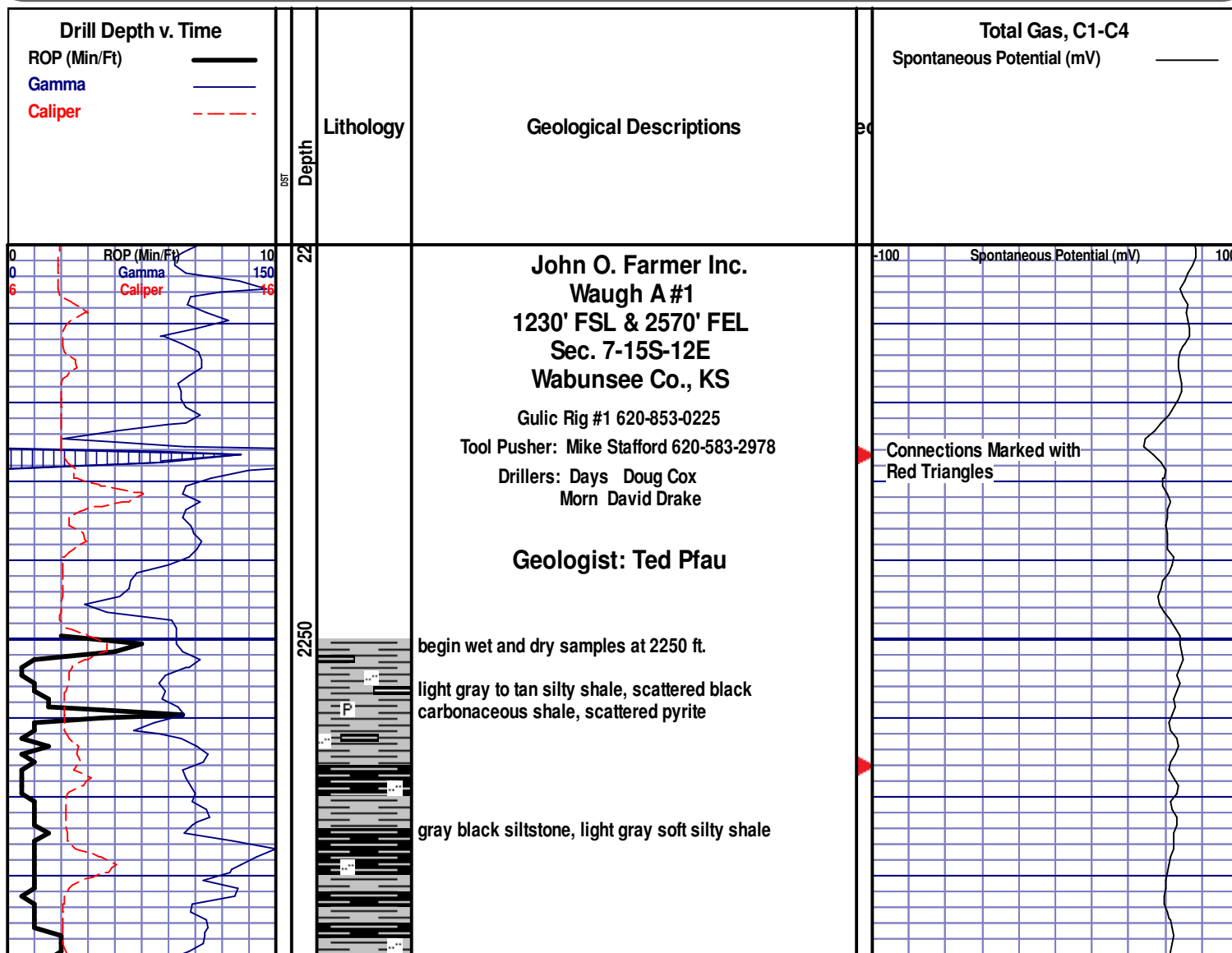
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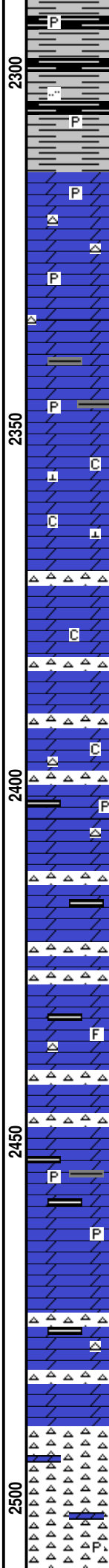
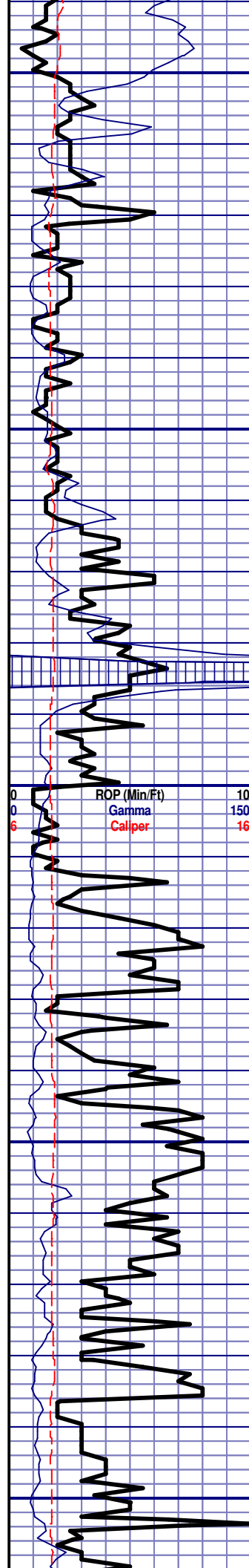
Anhy
Sh gry
Sh blk

Arg
Bent
Coal
Dol
Gyp
Ls
Mrst
Slststrg
Ssstrg
lmy ss
sdy ls
sly sh
slicrb

TEXTURE

Boundst
Chalky
Cryxln
Earthy
Finexln
Grainst
Lithogr
Microxln
Mudst
Packst
Wackest





as above, scattered pyrite

bit trip @ 2300' 0245 hrs
resume drilling 0530 hrs

Mississippian 2314 -987

dolomite, white to light tan, microcrystalline, hard,
dense, poor visible porosity, abundant chert, light gray
to white, scattered pyrite, no shows

dolomite, tan, hard, occasional fair vuggy porosity,
scattered dark gray shale, pyritic

dolomite, tan to cream, slightly fossiliferous, scattered
calcite veins, chalky, poor visible porosity, no shows

dolomite, tan, chalky, poor visible porosity, dull yellow
mineral fluorescence, abundant white translucent chert,
no shows

dolomite, tan, chalky, poor visible porosity, no
fluorescence, abundant chert white to tan, scattered dark
gray shale, fissile, pyrite, no shows

as above, scattered fossiliferous

dolomite, tan, sucrosic, some secondary
crystallization, shale, dark gray to light gray, blocky,
fine, green shale, waxy, contains pyrite flakes

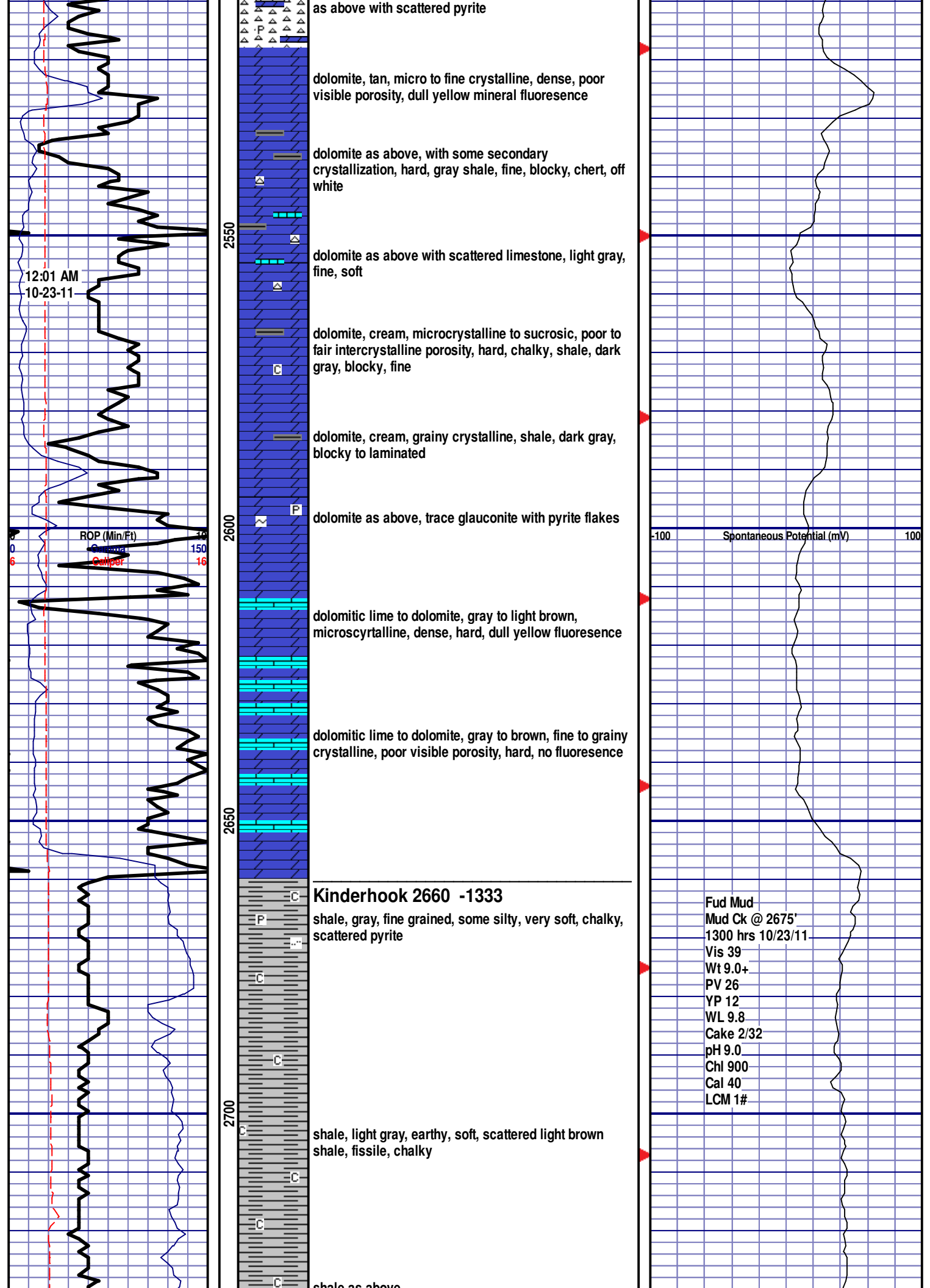
dolomite, tan to light brown, microcrystalline, chert,
mottled tan and gray, shale, gray black, fissile, no
shows, dull yellow mineral fluorescence

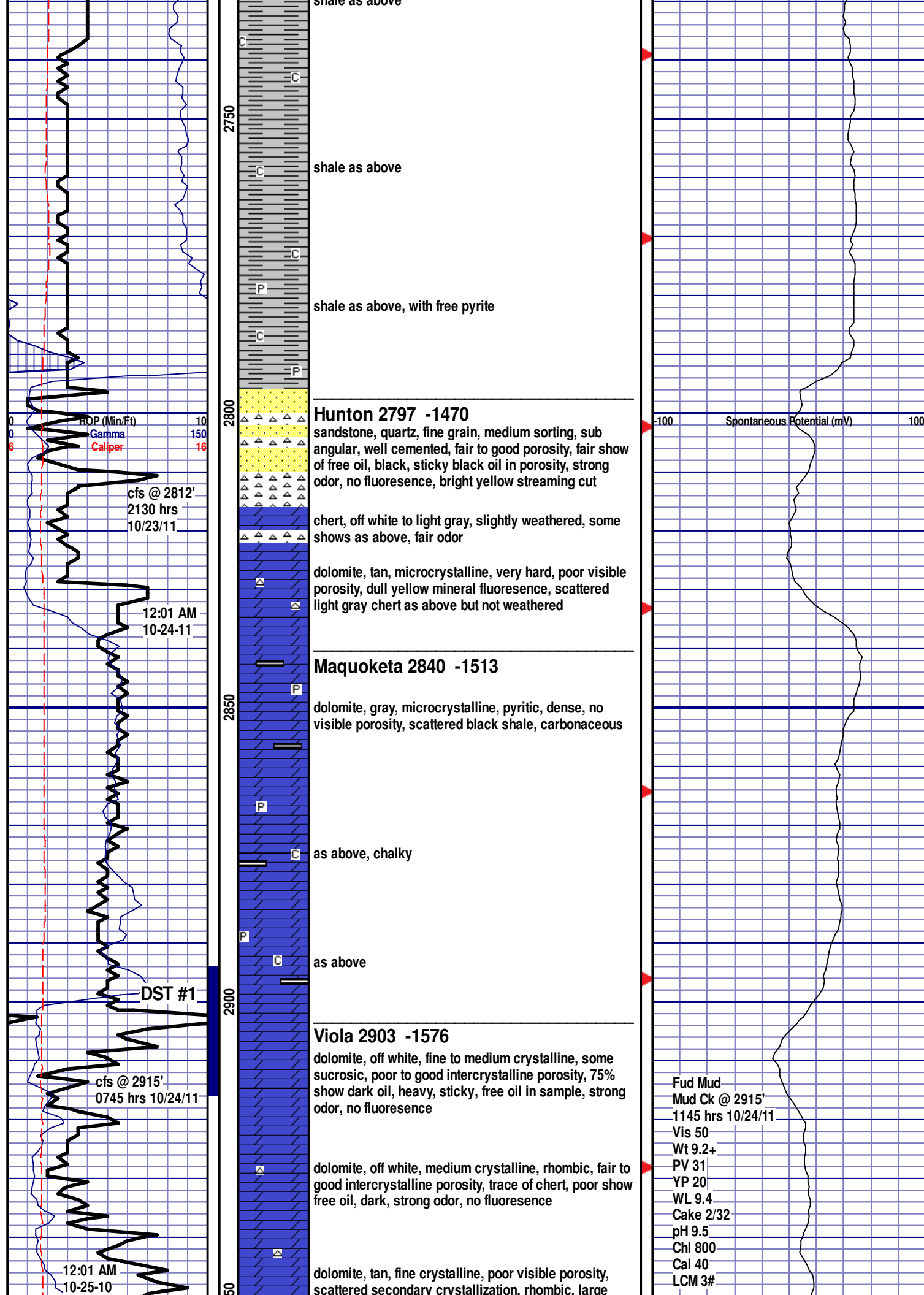
chert, light gray to light brown, glassy to
microcrystalline, scattered dolomite, tan,
microcrystalline, dense

Geologist Ted Pfau on
location at 0630 hrs
10/22/11 @ 2320'

Fud Mud
Mud Ck @ 2340'
0900 hrs 10/22/11
Vis 37
Wt 9.0
PV 24
YP 12
WL 10.4
Cake 2/32
pH 9.0
Chl 900
Cal 40
LCM 1-1/2#

-100 Spontaneous Potential (mV) 100





crystalline, faint odor, no show

dolomite, tan to gray, fine crystalline, poor visible intercrystalline porosity, hard, no odor, no fluorescence, no show

dolomite, light gray, microcrystalline, rhombic, poor visible porosity, scattered pyrite flakes, no show, no odor, no fluorescence

dolomite as above, with blue-green shale, pyritic, firm, no show

Simpson Dolomite 3009 -1682

dolomite, dark brown, micro to fine crystalline, sub-sucrosic, fair to good intercrystalline porosity, fair show free oil, dark brown, heavy, strong odor, no fluorescence, bright white cut, oil show in scattered sand, poorly sorted, quartz

Simpson Sand 3030 -1703

sandstone, quartz, very fine to fine grained, sub round, fair to good sorting, good intergranular porosity, well cemented to scattered friable, some dark brown oil saturation, fair show tarry free oil, strong odor, no fluorescence, bright white cut

sandstone, quartz, white, very fine to fine grained, sub round, fair sorting, fair visible porosity, well cemented, no free oil, no fluorescence, faint odor

sandstone, as above, with good visible porosity, friable, poor show free tarry oil, very slow bleed, good odor

shale, green and gray, waxy, soft, free pyrite nodules

Arbuckle 3084 -1576 -1757

dolomite, light tan, medium crystalline, subrhombic, poor visible porosity, hard, bright yellow mineral fluorescence

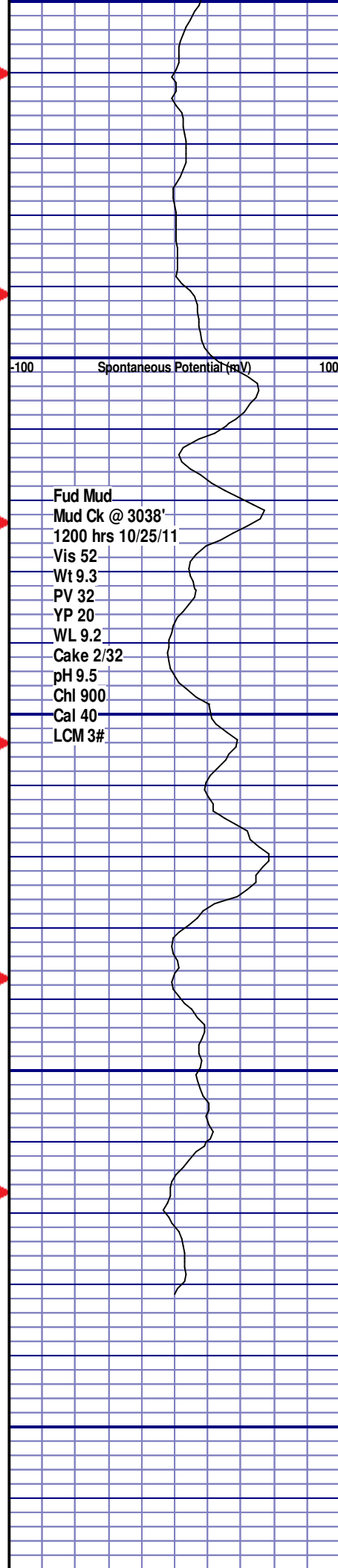
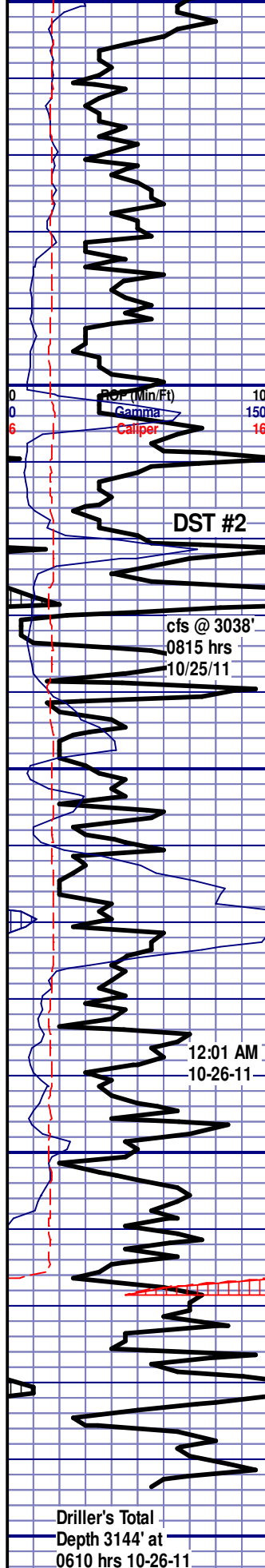
as above, including chert

dolomite as above, with secondary recrystallization, large, rhombic, scattered green shale, with pyrite flakes

Driller's TD 3144'

Log TD 3140'

Complete logging operations
@ 1330 hrs 10-26-11



[illegible]