


BASED ON FAVORABLE RESULTS OF DST # 5 AND LOG EVALUATION OF LKC AND ARBUCKLE.

OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG, MICRORESISTIVITY LOG

DRILL STEM TESTING BY SUPERIOR TESTERS ENTERPRISES, LLC: FIVE (5) CONVENTIONAL TESTS

DST # 1 TEST SUMMARY A_B ZONES OF LKC

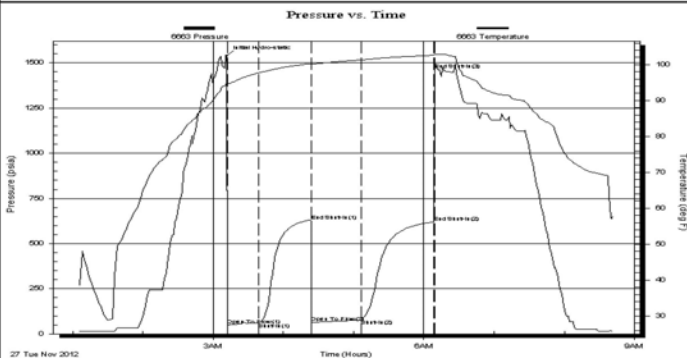
	DRILL STEM TEST REPORT	
	Carrie Exploration	34-19s-11w-Barton
	210 West 22nd Hays Kansas 67601	John Roth C3 Job Ticket: 17873 DST#: 1 Test Start: 2012.11.27 @ 01:05:00
ATTN: Herb		

GENERAL INFORMATION:

Formation: Lansing A-C	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Dustin Ellis
Time Tool Opened: 03:12:00	Unit No: 3315-Great Bend-25
Time Test Ended: 08:41:30	Reference Elevations: 1785.00 ft (KB)
Interval: 3047.00 ft (KB) To 3090.00 ft (KB) (TVD)	1777.00 ft (CF)
Total Depth: 3090.00 ft (KB) (TVD)	KB to GR/CF: 8.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

Serial #: 6663 Outside	Capacity: 5000.00 psia
Press@RunDepth: 77.87 psia @ 3086.00 ft (KB)	Last Calib.: 2012.11.27
Start Date: 2012.11.27	End Date: 2012.11.27
Start Time: 01:05:00	End Time: 08:41:30
	Time On Btm: 2012.11.27 @ 03:11:30
	Time Off Btm:

TEST COMMENT: 1st Open 30 minutes Fair building blow blew 4.5 inches .
 1st Shut in 45 minutes No blow back
 2nd Open 45 minutes Weak blow blew 1/2 inch. into bucket of water.
 2nd Shut in 60 minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1538.94	95.03	Initial Hydro-static
1	48.78	94.70	Open To Flow (1)
28	59.16	97.70	Shut-In(1)
72	626.73	100.24	End Shut-In(1)
73	63.19	100.12	Open To Flow (2)
115	77.87	101.33	Shut-In(2)
178	619.54	102.61	End Shut-In(2)
178	1464.11	102.79	End Shut-In(3)

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Muddy water Mud 20% Water 80%	0.91
0.00	Chlorides 36,000@56degree	0.00

Gas Rates

Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)

Superior Testers Enterprises LLC

Ref. No: 17873

Printed: 2012.11.27 @ 07:05:04

DST # 2 TEST SUMMARY D-F ZONES OF LKC

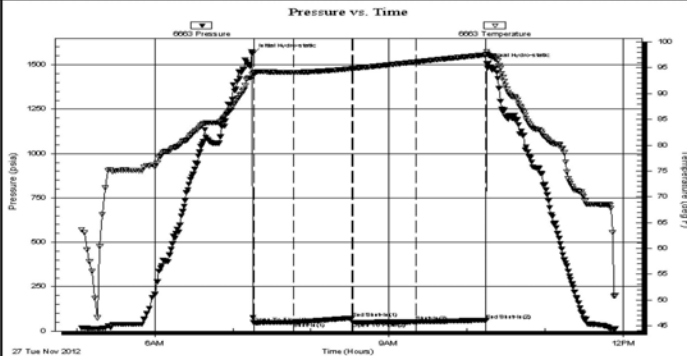
	DRILL STEM TEST REPORT	
	Carrie Exploration	34-19s-11w-Barton
	210 West 22nd Hays Kansas 67601	John Roth C3 Job Ticket: 17874 DST#: 2
ATTN: Herb		

GENERAL INFORMATION:

Formation: **Lansing D-F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:16:00
 Time Test Ended: 11:54:00
 Interval: **3088.00 ft (KB) To 3135.00 ft (KB) (TVD)**
 Total Depth: 3135.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Ellis
 Unit No: 3315-Great Bend-25
 Reference Elevations: 1785.00 ft (KB)
 1777.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6663 Outside
 Press@RunDepth: 52.14 psia @ 3131.00 ft (KB)
 Start Date: 2012.11.27 End Date: 2012.11.27
 Start Time: 05:03:00 End Time: 11:54:00
 Capacity: 5000.00 psia
 Last Calib.: 2012.11.27
 Time On Btm: 2012.11.27 @ 07:15:00
 Time Off Btm: 2012.11.27 @ 10:15:00

TEST COMMENT: 1st Open 30 minutes Fair blow blew 1 inch. into the bucket.
 1st Shut in 45 minutes No blow back
 2nd Open 45 minutes Weak surface blow died off.
 2nd Shut in 60 minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1561.82	93.74	Initial Hydro-static
1	47.81	94.01	Open To Flow (1)
32	49.49	94.11	Shut-In(1)
77	74.48	94.85	End Shut-In(1)
78	49.46	94.87	Open To Flow (2)
126	52.14	96.14	Shut-In(2)
180	62.16	97.53	End Shut-In(2)
180	1507.38	98.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
18.00	Mud 100%	0.25

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)

DST # 3 NO TEST SUMMARY AVAILABLE DUE TO COMPUTER FAILURE

DST # 4 TEST SUMMARY ARBUCKLE



DRILL STEM TEST REPORT

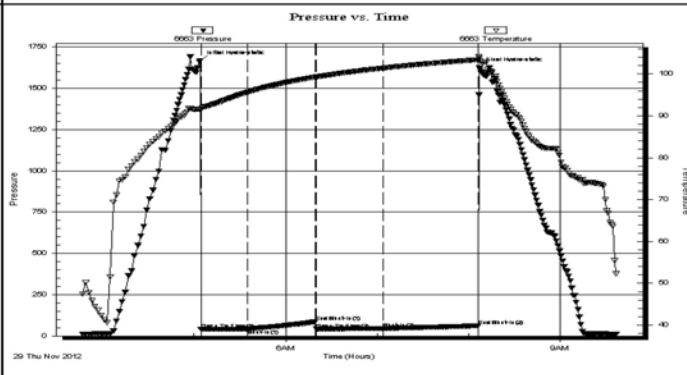
Carrie Exploration
 210 West 22nd Hays Kansas
 67601
 ATTN: Herb
34-19s-11w-Barton
John Roth C3
 Job Ticket: 17701 **DST#: 4**
 Test Start: 2012.11.29 @ 03:46:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:04:30
 Time Test Ended: 09:37:00
 Interval: **3300.00 ft (KB) To 3328.00 ft (KB) (TVD)**
 Total Depth: 3328.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Ellis
 Unit No: 3315-Great Bend-25
 Reference Elevations: 1785.00 ft (KB)
 1777.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6663 Inside
 Press@RunDepth: 44.13 psia @ 3324.00 ft (KB)
 Start Date: 2012.11.29 End Date: 2012.11.29
 Start Time: 03:47:00 End Time: 09:37:00
 Capacity: 5000.00 psia
 Last Calib.: 2012.11.29
 Time On Btm: 2012.11.29 @ 05:04:00
 Time Off Btm: 2012.11.29 @ 08:07:00

TEST COMMENT: 1st Open 30 minutes Weak blow blew 1/2 inch.
 1st Shut in 45 minutes No blow back
 2nd Open 45 minutes Weak blow blew 1/2 inch.
 2nd Shut in 60 minutes No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1667.10	91.57	Initial Hydro-static
1	40.23	91.49	Open To Flow (1)
31	41.95	95.65	Shut-In(1)
76	87.03	99.26	End Shut-In(1)
76	42.41	99.28	Open To Flow (2)
121	44.13	101.40	Shut-In(2)
182	62.18	103.39	End Shut-In(2)
183	1624.02	103.75	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
15.00	Slightly oil cut mud 4% Oil 96% Mud	0.21

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)

Superior Testers Enterprises LLC

Ref. No: 17701

Printed: 2012.11.30 @ 09:36:15

DST # 5 TEST SUMMARY ARBUCKLE



DRILL STEM TEST REPORT

Carrie Exploration **34-19s-11w-Barton**

210 West 22nd Hays Kansas 67601 **John Roth C3**

Job Ticket: 17702 **DST#:5**

ATTN: Herb Test Start: 2012.11.29 @ 03:01:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:34:30
 Time Test Ended: 09:28:30

Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Ellis
 Unit No: 3315-Great-Bend-25

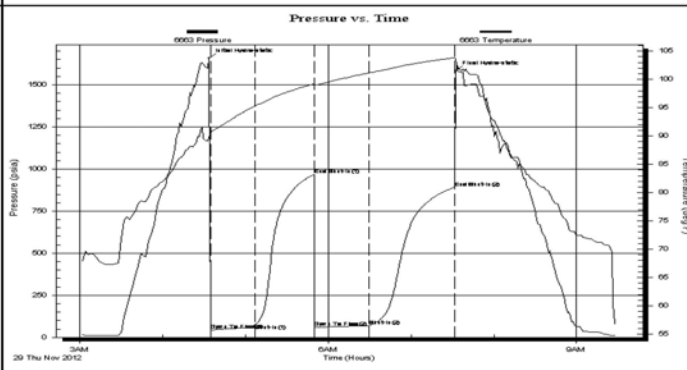
Interval: **3300.00 ft (KB) To 3333.00 ft (KB) (TVD)**
 Total Depth: 3333.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1785.00 ft (KB)
 1777.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6663 Inside

Press@RunDepth: 69.52 psia @ 3329.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2012.11.29 End Date: 2012.11.29 Last Calib.: 2012.11.29
 Start Time: 03:01:00 End Time: 09:28:30 Time On Btm: 2012.11.29 @ 04:33:30
 Time Off Btm: 2012.11.29 @ 07:32:30

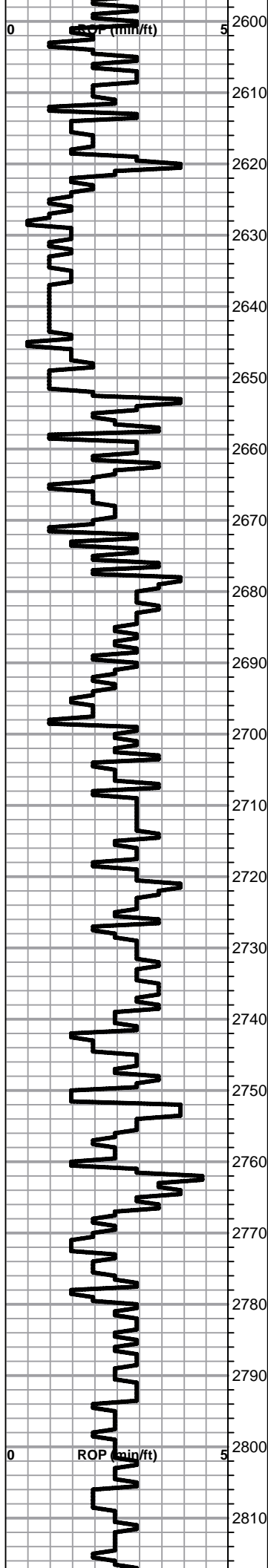
TEST COMMENT: 1st Open 30 minutes Fair building blow blew 5.5 inches
 1st Shut in 45 minutes No blow back
 2nd Open 45 minutes Fair building blow blew bottom bucket 28 minutes.
 2nd Shut in 60 minutes No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1657.54	89.74	Initial Hydro-static
1	43.54	90.55	Open To Flow (1)
34	75.45	95.28	Shut-In(1)
76	966.82	99.20	End Shut-In(1)
77	60.59	99.00	Open To Flow (2)
116	69.52	101.14	Shut-In(2)
178	891.02	103.82	End Shut-In(2)
179	1582.96	103.72	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
15.00	Clean Oil 100%	0.21
55.00	Oil cut mud 20% Oil Mud 80%	0.77

Gas Rates			
	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)



Lime, lt brn-med grayish brn, fnxln, thin fusulinid beds in part

Lime, lt brn-med grayish brn, fnxln-granular, soft chalk

Shale, lt gray, soft, sticky clumps

Lime, med-dark brn, fnxln, slightly fossiliferous

Shale, lt gray, soft forming soft mud in part

Sandstone, lt gray, fn grained, gritty, glauconitic, NS, no staining

TOPEKA ELOG 2651-869

Lime, lt-dark brn, fnxln, thin fossil beds in part, NS

Lime, lt-med grn-gray, fnxln, scattered chalk, thin fossil beds

Lime, lt-med brn, fnxln, bedded chalk in part

Lime, lt-med brn, fnxln, slight thin bed chalk

Lime, lt-med brn-grayish brn, fnxln with increasing granular

Lime, lt-dark-grayish brn, fnxln, scattered micritic lime, micro fossils in darker limes.

Lime, lt-dark brn, fnxln, thin fusulinid beds

Lime, lt-med brn, fnxln, scattered fusulinids

Lime, lt-med brn, fnxln, scattered chalk beds with thin fossil beds in part

Lime, lt-med brn-grayish brn, fnxln, thin beds of fusulinids with crinoid segments in part

Shale, gray-black, carbonaceous

Lime, med brn, fn-vfxln with sticky clumps of chalk

Shale, lt gray, forming soft sticky clumps

Lime, lt brn-lt gray, fnxln, bed chalk in part

Shale, lt gray, soft forming soft mud

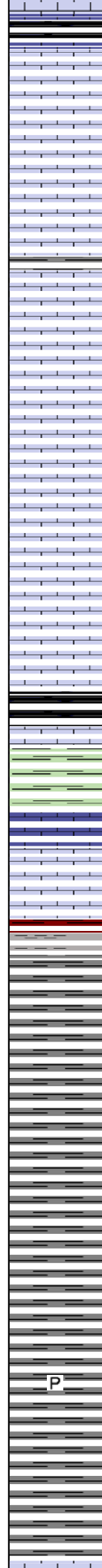
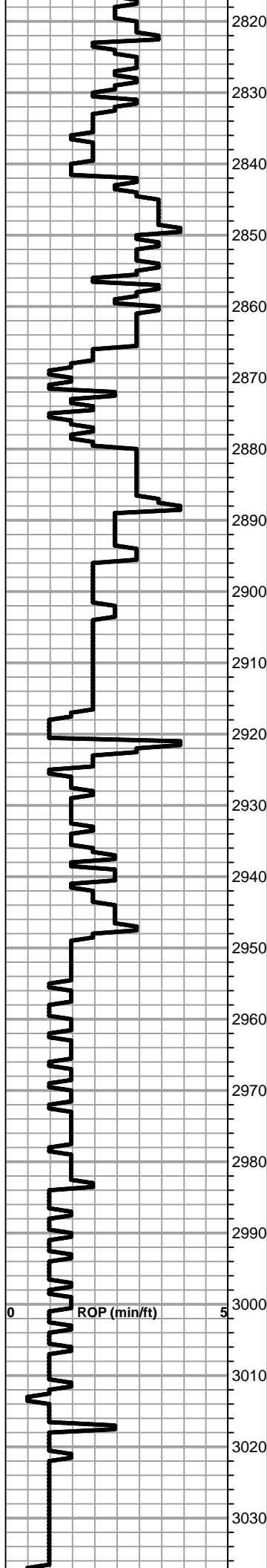
Lime, crm-lt brn, fnxln, bed chalk

Lime, crm-lt brn, fnxln, bed chalk in part

Lime, lt brnm fnxln-granular, chalk in part

Lime, lt-med brn, fnxln-granular, slight bed chalk

Lime, lt brn-lt gray, fnxln-granular, chalk in part



Shale, gray-black carbonaceous, fissile, blocky

Lime, med brn-grayish brn, fnxln-granular, bed chalk in part

Lime, lt-med brn-grayish brn, fnxln-granular, chalk in part

Lime, lt-med brn, fnxln, slightly fossiliferous, slight chalk in part

Lime, lt-med brn, fnxln, slight fossiliferous, gray speckling

Lime, lt-med brn, fnxln-granular, slightly fossiliferous, soft bed chalk, NS

Lime, lt-med brn, fnxln-granular, thin fusulinid beds with slight chalk in part

Lime, lt-med brn, fnxln-granular

Lime, lt-med brn, fnxln-granular, bed chalk in part

Lime, lt-med brn, fnxln-granular, slightly fossiliferous

HEEBNER SHALE ELOG 2914-1132

Shale, black carbonaceous, fissile, blocky

Lime, med brn, fnxln, hard, slightly fossiliferous

Shale, dove gray-lime green forming soft mud clumps

TORONTO ELOG 2931-1149

Lime, lt brn, fnxln-granular, chalk in part, NS

Lime, crm, granular, chalk in part, NS

DOUGLAS SHALE ELOG 2946-1164

Shale, reddish brn-lt gray forming soft mud clumps

Shale, lt-med gray, soft, platy

Shale, lt-med gray, soft sticky clumps-soft blocky

Shale, lt-med gray, soft-firm

Sandstone, fn grained, gritty, micaceous, NS, no staining

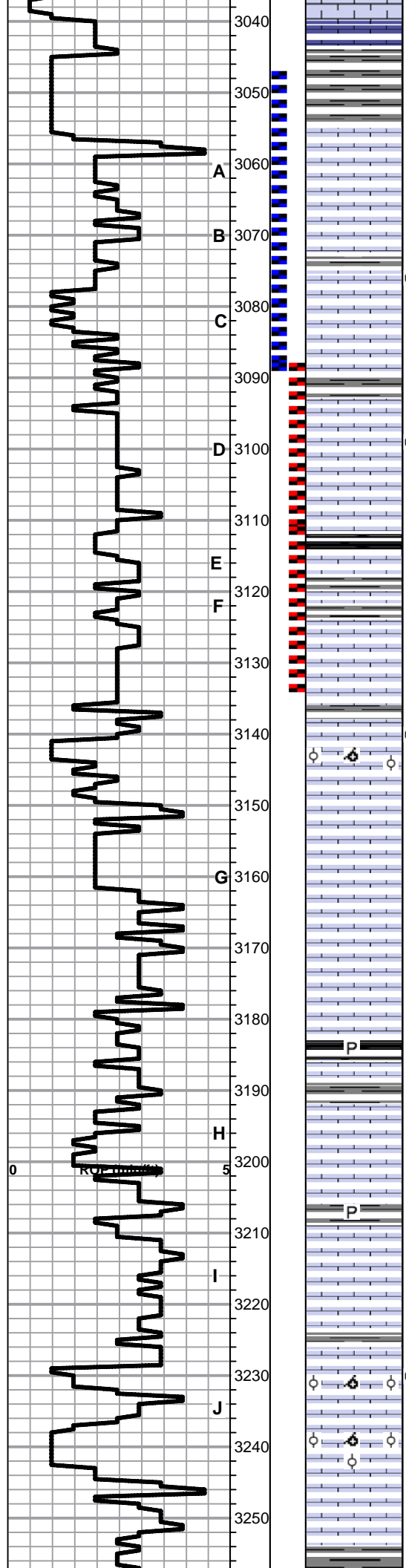
Soft, lt-med gray, soft-firm

Shale, lt gray with increasing sticky, argillaceous clumps

Shale, lt-med gran, soft blocky- sticky clumps in part scattered pyrite clusters in part

Shale, lt-med gray, soft blocky-sticky clumps

BROWN LIME ELOG 3036-1254



Lime, lt-med brn, fn-vfxln, slightly fossiliferous

Shale, lt-med gray, soft forming soft mud in part

LKC ELOG 3055-1273

DST # 1 3047' - 3090' SEE
HEADER FOR TEST SUMMARY

A

Lime, lt-med brn, fnxln-granular with chalk, NS

B

Lime, lt brn, fnxln, oolitic/oolmoldic, scattered lite staining, V
lt odor

C

Lime, crm-lt brn, fnxln, scattered fusulinids

3090

Lime, lt-med brn, fnxln

D

Lime, offwhite-lt gray-lt brn, mostly fnxln, slight bed chalk,
trace of oil stain in interxln porosity with fossil casts

3110

Lime, lt gray-med brn, fnxln, scattered fossil fragments

E

Shale, gray-black carbonaceous

Lime, lt-med brn-grayish brn, fnxln, hard on crush

F

Lime, lt grayish brn-lt brn, fnxln, NS

3130

Lime, lt gray-lt brn, fnxln, slight bedded chalk with scattered
fossil fragments in part, NS

3140

Lime, crm-lt brn, fnxln, slightly fossiliferous in thin beds,
trace of staining, NFO, No Odor

3150

Lime, lt-med brn-grayish brn, fnxln, scattered crinoids
segments

G

Lime, lt brn-lt grayish brn, fnxln, slight bed chalk in part

3170

Lime, med brn-med grayish brn, fn-vfxln, hard on crush

3180

Lime, crm-lt brn, fnxln with increasing bed chalk

3190

Shale, gray-black carbonaceous

H

Lime, lt grayish brn, fn-vfxln, micritic in part

3200

Lime, lt brn-lt grayish brn, fnxln, bedded chalk, NS, No Stain

3210

Lime, lt-med brn, fn-vfxln

I

Lime, lt-med brn, mostly fn-vfxln

3230

Lime, lt brn-offwhite, fnxln with oolitic/oolmoldic chips with
chalk beds in part, very spotty stain, NFO, No Odor

J

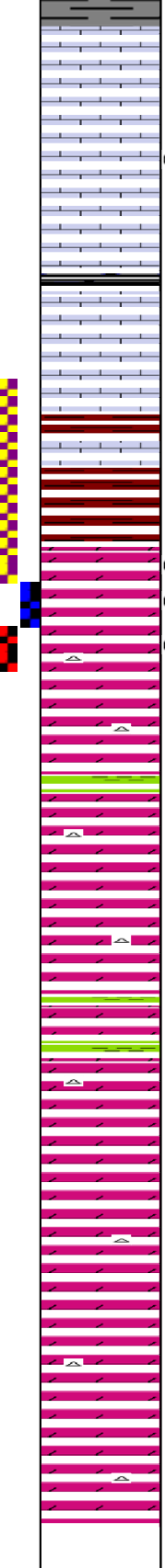
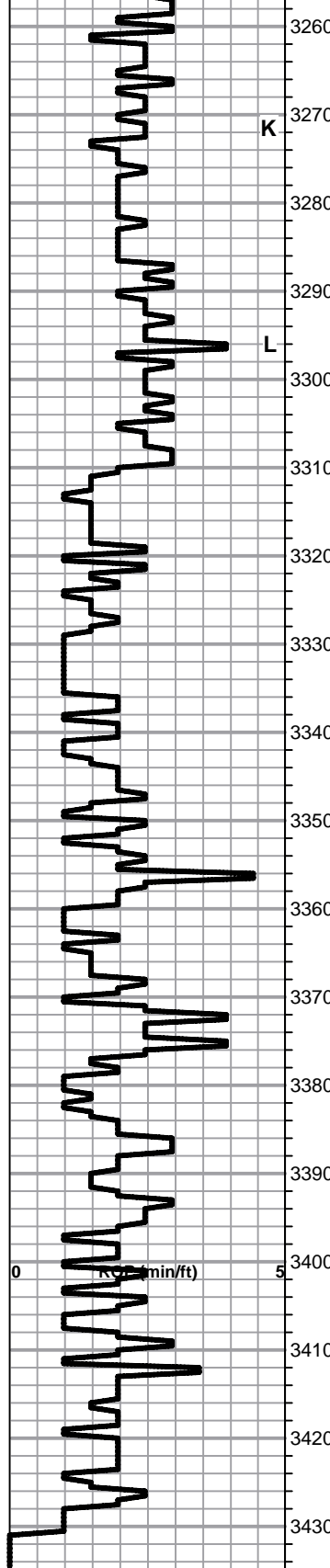
3240

Lime, white-lt brn, fnxln with oolitic/oolmoldic in part, lot of
bedded chalk, NS

3250

Lime, crm-lt brn, fnxln, scattered thin chalk beds

Shale, dark gray, forming soft mud clumps



Shale, dove gray, forming soft mud clumps

Lime, crm-lt brn with scattered dark brn lime, fn-vfxln, slight chalk in part

Lime, lt brn, fnxln, bed chalk in part

Lime, lt brn-lt grayish brn, fnxln, bed chalk in part , few oolimoldic chips with very lt, scattered staining, NFO, No Odor

Lime, lt-dark brn, fn-vfxln, slight bed chalk in part

Lime, lt-med brn, fnxln

BKC ELOG 3305-1523

Shale, lt gray-lt brn-reddish brn, soft blocky

Shale, reddish brn, blocky

ARBUCKLE ELOG 3318-1536

Dolomite, crm-lt brn, fnxln, fine grained with lt odor and stain

Dolomite, crm-lt brn, fnxln with fine grained sucrosic, lt odor

Dolomite, lt brn, fn-med xln, scattered to sat stain, F odor

Dolomite, lt brn, fnxln with scattered vugs, fair odor

White chert, fresh, sharp

Dolomite, lt brn, fnxln-granular, slightly vuggy, lt sulfur odor

Dolomite, lt brn, fnxln-granular, decreasing sulfur odor

Dolomite, lt-med brn, fnxln-granular, scattered vugs and oomolds.

Dolomite, lt brn, fnxln, hard on crush

Dolomite, lt brn, granular, scattered vugs

Dolomite, lt brn, fnxln-granular, increasing euhedral, cxln material.

Dolomite, crm-lt brn, mostly fnxln

Dolomite, , lt brn, fnxln-granular

Dolomite, crm-lt brn, fnxln-granular

RTD 3430-1648 LTD 3430-1648

DST # 3 3300' - 3323'
 TESTER'S COMPUTER
 FAILED AFTER TEST AND
 DATA LOST. TEST HAD 5' OF
 MUD AND NO PRESSURES.
 DRILLED 5' AND RAN DST # 4
 WHICH WAS ALMOST
 IDENTICAL TO # 3 TEST IN
 RECOVERY AND
 PRESSURES

DST # 4 3300' - 3328' SEE
 HEADER FOR TEST
 SUMMARY

DST # 5 3300' - 3333' SEE
 HEADER FOR TEST
 SUMMARY