

Scale 1:240 Imperial

Well Name: Niermeier 1-8
 Surface Location: Sec. 08 - T09S - R27 W
 Bottom Location:
 API: 15-179-21443-00-00
 License Number: 32593
 Spud Date: 3/2/2018
 Region: Mid Continent
 Drilling Completed: 3/10/2018
 Surface Coordinates: 1815' FSL & 575' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2697.00ft
 K.B. Elevation: 2704.00ft
 Logged Interval: 3400.00ft
 Total Depth: 4439.00ft
 Formation: Lansing-Kansas City
 Drilling Fluid Type: Chemical/Fresh Water Gel

Time: 7:00 AM
 Time: 1:00 AM
 To: 0.00ft

LOGGED BY

Ard Consulting Services
Bruce B. Ard

6000 10th Street
 Great Bend, KS 67530

Company: A.C.S. - Ard Consulting Services
 Address: 6000 10th Street
 Great Bend, KS
 67530
 Phone Nbr: 620-357-1849
 Logged By: Geologist

Name: Bruce B. Ard - KPG # 220

OPERATOR

Company: Dan Haffner
 Address: RR # 2 P.O.Box 49
 Hoxie, Ks
 67740

Contact Geologist: Bruce B. Ard
 Contact Phone Nbr: 620-357-1849
 Well Name: Niermeier 1-8
 Location: Sec. 08 - T09S - R27 W
 API: 15-179-21443-00-00
 Pool: Sheridan County
 State: Kansas

Field: Wildcatt
 Country: USA

CONTRACTOR

Contractor: STP Drilling Company
 Rig #: 1
 Rig Type: mud rotary
 Spud Date: 3/2/2018
 TD Date: 3/10/2018
 Rig Release:

Time: 7:00 AM
 Time: 1:00 AM
 Time:

ELEVATIONS

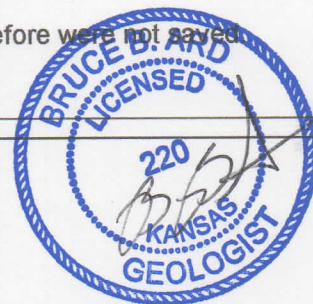
K.B. Elevation: 2704.00ft
 K.B. to Ground: 7.00ft
 Ground Elevation: 2697.00ft

NOTES

After review of the Open Hole Logs, DST results and Geological Report, it was recommended and agreed upon by all interested parties to cease drilling of the Niermeier 1-8 test well to abandon as a dry hole.

The drilling samples were not requested by the Kansas Geological Survey and therefore were not saved.

Respectfully Submitted, Bruce B. Ard - KPG # 220



Dan Haffner
 DAILY DRILLING REPORT

DATE	7:00 AM DEPTH	Last 24 Hour Operations
3/5/2018	3427	call depth @ 3200, displaced @ 3269, drilling ahead, Howard @ 3538, Topeka @ 3590, Heebner @ 3803, Toronto @ 3821, cfs @ 3833, Lansing @ 3832, cfs @ 3854, samples warrant test

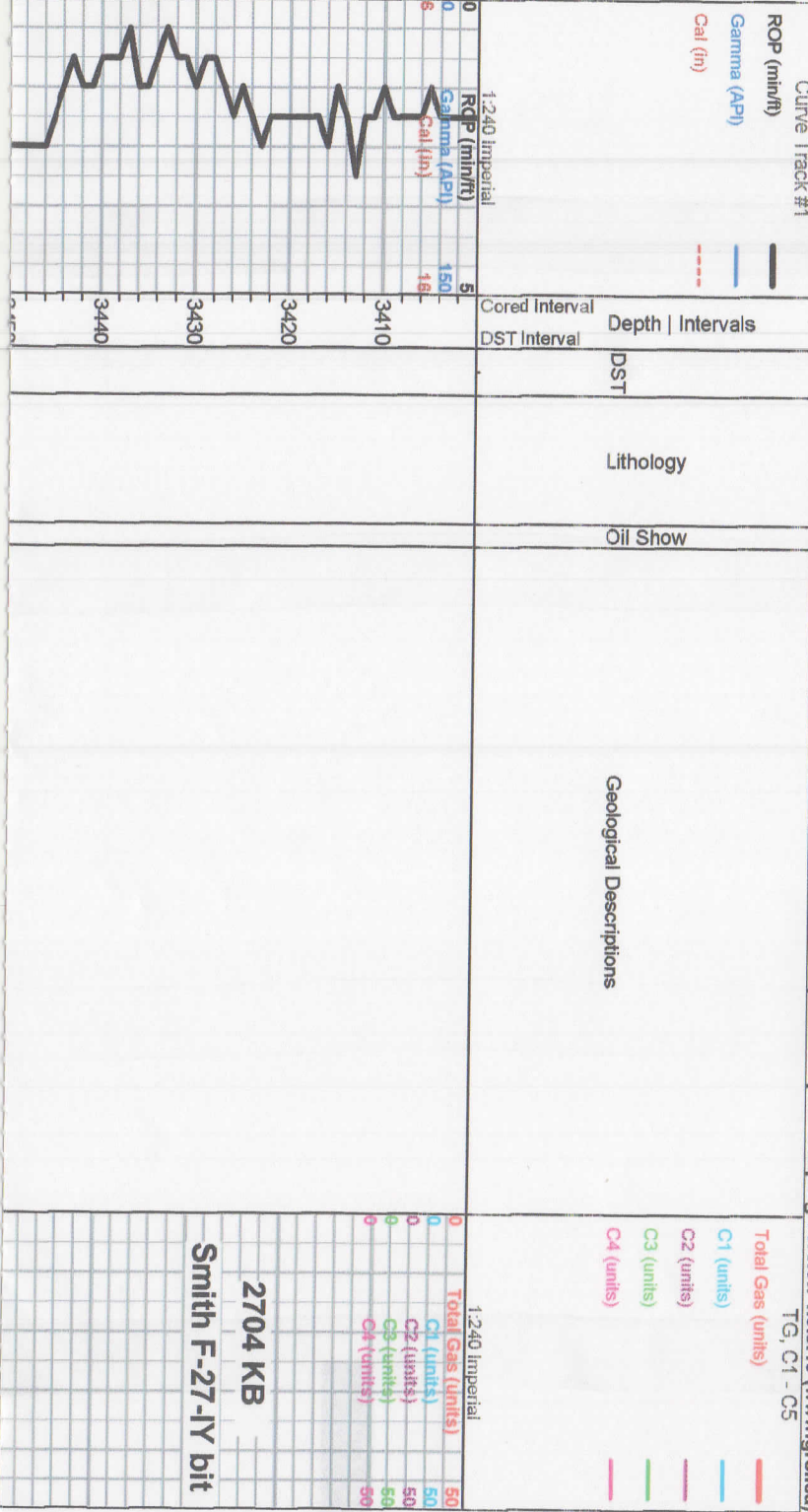
3/6/2018	3854	short trip 35 stands, CTCH, drop survey, strap out for DST #1, make up tool, TIH w/tool, testing wait 6.5 hrs on wind, TOH w/tool, break down tool, TIH, CTCH
3/7/2018	3890	resume drilling, C zone @ 3871, cfs @ 3886, D zone @ 3883, cfs @ 3890, samples warrant test, TOH for DST #2, make up tool, TIH w/tool, testing, TOH w/tool, break down tool, TIH, CTCH, resume drilling, EIF zone @ 3905, cfs @ 3910, G zone @ 3923, Muncie Creek @ 3954, H zone @ 3956, cfs @ 3973
3/8/2018	4042	I zone @ 3996, cfs @ 3996, J zone @ 4014, cfs @ 4012, K zone @ 4034, cfs @ 4042, spils warrant test, short trip, CTCH, TOH for DST #3, make up tool, TIH w/tool, testing, misturn, TOH w/tool, break down tool, TIH, CTCH resume drilling, L zone @ 4058, BKC @ 4070, Pleasanton @ 4078, cfs @ 4091
3/9/2018	4168	Mammaton @ 4100, Upper Pawnee @ 4188, Lower Pawnee @ 4226, Ft Scott @ 4285, Cherokee Sh @ 4312, Mississippian 4369
3/10/2018	4439	RTD @ 4439, cfs & log, short trip, CTCH, drop survey, TOH for Electrical logs, rig up loggers logging, rig down loggers, evaluate Electrical logs, after evaluation of Electrical logs, DST results and Geological report, it was recommended and agreed upon by all interested parties to cease drilling operations to plug and abandon the Niemeier 1-8 test well as a dry hole, tear down off location, return to Great Bend Ks office to prepare and complete final Geological Report for distribution to all parties
3/11/2018		final Geological Report completed and distributed to all interested parties

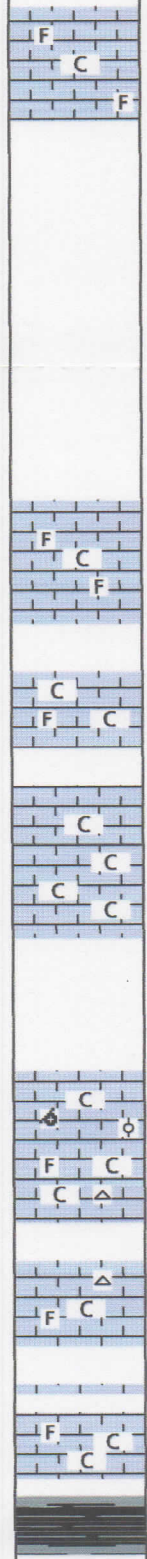
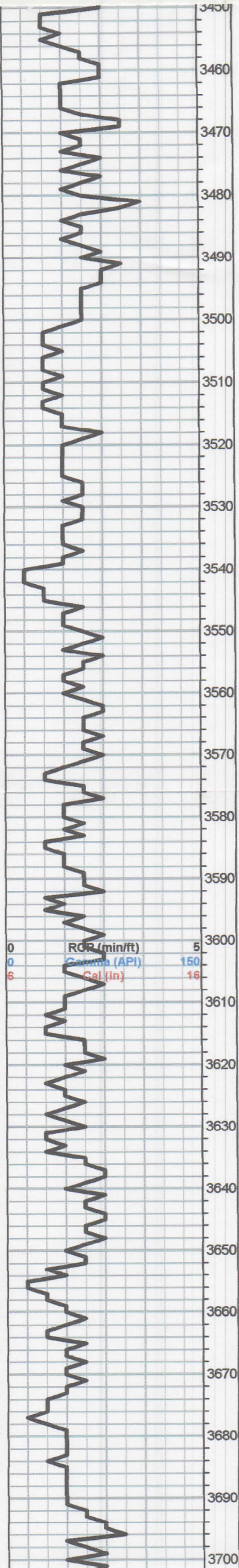
Dan Hafner

WELL COMPARISON SHEET

DRELLING WELL				COMPARISON WELL				COMPARISON WELL				COMPARISON WELL			
Dan Hafner - Niemeier 1-8 1815 PAL & 678 PAL 290.08 - TOH3 - R27W				Rains & Williamson - Niemeier A-1 NC - 8W - SE 5738 KB				Dan Hafner - Hafner 1-7 231V PAL & 1098 FEL 2995 KB				Niemeier #1 32 - 3W 2578 KB			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Sample	Log	Sub-Sea	Sample	Log	Sub-Sea	Sample	Log	Sub-Sea	Sample	Log
Ashyville	2347	287	2904	400	2003	402	-4	-2	2301	394	3	6	2285	410	-10
Base Anhydrite	2340	394	2339	985	2340	398	-4	-3	2335	380	4	5	2307	372	-7
Howard	3538	-204	3536	-402	3552	-544	10	12	3534	-669	5	7			
Togaha	3650	-388	3638	-824	3602	-894	8	10	3584	-869	3	6			
Hedden	3803	-1098	3801	-1027	3812	-1104	6	7	3785	-1100	1	3			
Toronto	5281	-1157	5219	-1115	5204	-1128	9	11	5218	-1121	4	8			
Laneing	3832	-1128	3830	-1128	3847	-1138	11	13	3832	-1137	9	11			
Munroe Creek	3854	-1260	3867	-1263	3900	-1282	2	-1	3847	-1262	2	-1			
Base Kansas City	4570	-1098	4088	-1994	4075	-1927	1	3	4081	-1998	0	2			
Pleasanton	4278	-1874	4075	-1871					4065	-1873	-1	2			
Mammaton	4130	-1398	4088	-1885					4061	-1885	0	1			
Upper Pawnee	4138	-1494	4136	-1481					4178	-1481	-3	0			
Lower Pawnee	4238	-1622	4235	-1621					4218	-1523	1	2			
Fort Scott	4285	-1681	4238	-1822					4276	-1663	2	1			
Cherokee	4312	-1808	4310	-1808					4303	-1805	0	2			
Miscellaneous Chrt	4388	-1895	4338	-1882					4388	-1881	-7	-5			
Miscellaneous Lm	4428	-1888	4400	-1888					4420	-1795	-7	-5			
Total Depth	4439	-1795	4458	-1724	4651	-1873							4623	-1944	

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Howard

limestone, lt crm-gry, dse, sli chlky, sli rex, xtaln, sli fos, pvis por, ns noted

Topeka

limestone, lt crm-gry to crm-wht, dse, sli chlky, sli rex, sli fos, pscatt pp por, ? trc dos

limestone, lt gry to gry-wht, dse, incr wht chlk, xtaln to sli rex, sli fos, pvis por, ns noted

same, incr fxtaln, rex, wht chlk, incr dk gry sh

limestone, lt crm, dse, incr chlky, fxtaln, sli rex, scatt pp por, ns noted

limestone, lt crm, dse, sli chlky, fxtaln, sli rex, sli ooc/oom, pvis scatt por, ns noted

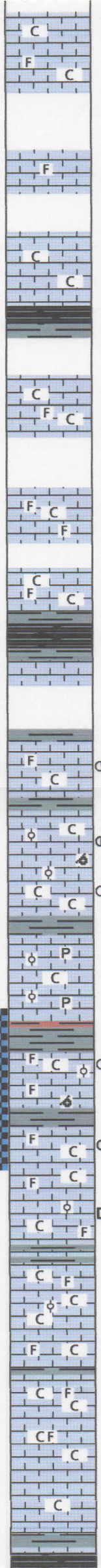
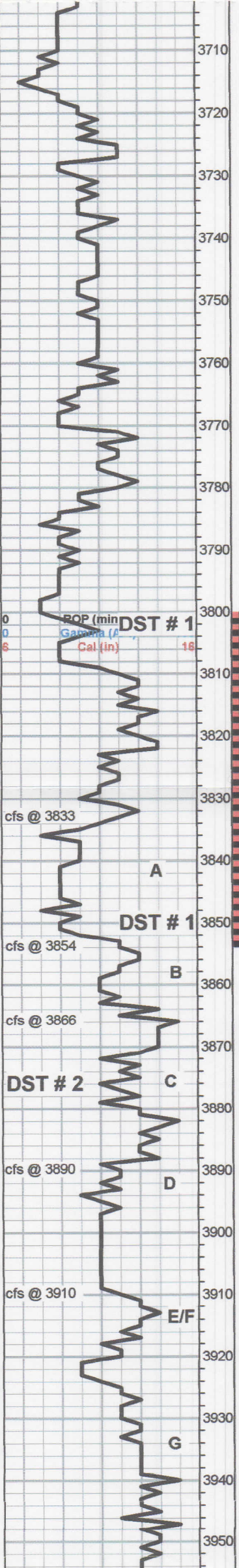
limestone, lt crm-wht, dse, chlky, sli rex, sli fos, incr wht chlk, wht opq chert, ns noted

limestone, influx lt crm, dse, rex, sucr to gran text, sli fos, lt gry trans chert, less chlk, ns noted

limestone aa, incr wht chlk, few dk gry sh

dk gry to blk carb sh

0	Total Gas (units)	50
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
0	C4 (units)	50



limestone, lt gry-wht, dse, sli chlky, sli rex, trc fos, pvis por, ns noted

limestone aa w/ some sli sdy, silty/shly, sli pyr, pvis por, ns noted

limestone, lt crm, dse, xtaln, sli rex, sli fos, pvis por, ns noted

incr vcs, gm, rd, gry

limestone, lt gry-wht to wht, dse, sli chlky, fgran text to sli rex, pvis por, ns noted

limestone, lt gry-crm, dse, chlky, sli rex, trc fos, scatt vis por, ns

limestone, lt crm, dse, sli chlky, sli rex, sli fos, pscatt por, ns noted

limestone aa, incr wht chl

Heebner
sh, blk, carb

Toronto
limestone, lt gry-crm, dse, sli chlky, sli rex, sli fos, pscatt pp por, scatt spotty stn, w/brkn, sli fo specks & ft odor

Lansing
limestone, lt gry-wht to wht, dse, sli chlky, rex, ool/ool, fvis ool/ool por, stn & fo vis in por, incr brn, sli gassy fo & odor w/brkn, sli sheen & odor in cup

limestone, lt gry-crm to crm-wht, dse, fxtaln, sli rex, pvis por, lg influx wht chl, ? trc stn, nsfo noted

Resume drilling @ 0030 hrs on 03-07-2018

limestone, lt gry-wht, dse, sli chlky, xtaln to fxtaln, sli rex, few rex gry ool, sli trc pyritic, pvis por, ns noted

limestone aa, & lt gry-crm, dse, sli chlky, xtaln sli rex, trc ool, trc pyritic, pvis por, ns noted

limestone, lt gry-crm-wht, dse, chlky, xtaln, sli rex, sli fos/ool, scatt pfos/ool & sm scatt vugs, dk brn hvy to sli tarry oil, hvy fo, few specks brn fo & ft odor w/brkn

limestone, lt gry-wht, dse, rex, fos/ool, fair vis fos/ool por w/stn & fo vis in por, incr lt brn fo, sli gassy, & odor w/brkn, trc sheen in cup

Resume drilling @ 1730 hrs on 03-07-2018

limestone, lt crm-wht to lt crm-gry, dse, sli chlky, xtaln to fxtaln, trc scatt fos matl, very few spls w/dk brn-blk tarry to asphaltic stn, vpvis por

limestone, lt crm-gry-wht, dse, sli incr chl, fxtaln, sli rex, trc fos/ool, vp to nvis por, ns noted

limestone aa, sli darker & incr chl, ns noted

limestone, lt crm-wht to gry-wht, dse, sli chlky, xtaln to sli rex, trc fos, pvis por, ns noted

limestone, lt crm-wht, dse, chlky, xtaln to fxtaln, rex sli fos, pscatt vis por, ns noted

limestone, lt crm-wht & lt gry-wht, vdse, fxtaln, chert like, vp to nvis por, ns noted

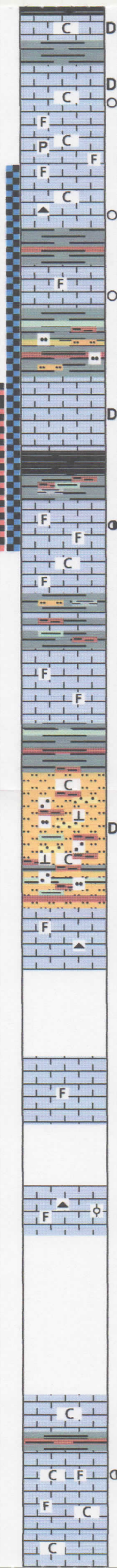
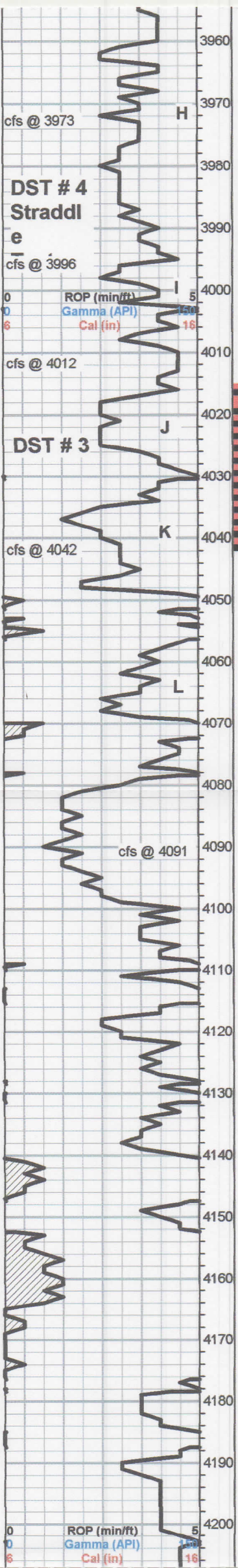
same, less chl

Muncie Creek

0	Total Gas (units)	50
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
0	C4 (units)	90

DST #1.JPG
DST #1 3800-3854
 Times: 15-60-15-90
 IF: BOB 30" - weak return for 30 min
 FF: BOB 90" - weak return for 15 min
 Rec: 350 ft MW - 35/65%
 1650 ft water - 68K ppm
 2000 ft Total Fluid
 IFP: 364-652# ISIP: 1010#
 FFP: 703-928# FSIP: 1009#
 Dev survey: 1 deg
 Pipe strap: 1.59 ft long

DST#2.JPG
DST #2 3864-3890
 Times: 45-60-60-90
 IF: built to 1.75" in 45 min no return
 FF: 1/4" - died to surf in 60" no return
 Rec: 40 ft Mud with show in tool
 IFP: 16-24# ISIP: 966
 FFP: 27-33# FSIP: 971



limestone, lt gry-wht, dse, sli chlky, fxtaln, sli rex, vp vis por, trc asph stn

limestone, lt gry-wht to gry-crm, dse, sli chlky, fxtaln, sli rex, trc fos, pvls scatt pp por, ? trc spotty stn & few scatt asph stn, nsfo noted w/brkn, no odor

limestone, lt gry-wht, dse, sli chlky, fxtaln, sli rex, sli fos, sli pyr, pvls por, ns noted

limestone, lt gry-wht, vdse, fxtaln, rex, trc chert, vpvis por, ? trc stn, nsfo noted

limestone, lt crm to crm-gry, dse, frex, xtaln, trc fos, pvls por, ? trc stn, nsfo noted

influx rd, mar brn, gry, grn sh, some silty, brn-rd wash

limestone, lt crm-wht, dse, rex, fxtaln, trc fos, vpvis por, few scatt blk tarry to do stn, nsfo noted or odor w/brkn

blk carb sh abdt vcs

limestone, vlt beige, dse, fine rex, fos, matl, vfpp por, some sli larger fos por vis, very fine brn fo specks vis in por, fair to large incr of lt brn, sli gassy fo w/brkn, ft odor

Resume drilling @ 1945 hrs on 03-08-2018

limestone aa, becoming less fos, less por, fxtaln, most ns, sli chlky

incr vcs & silt

limestone, lt crm, dse, xtaln, sli rex, sli fos, vpvis por, ns noted

same aa

Base Kansas City

Pleasanton

abdt vcs & rd silts, sli sdy, mostly calc & chlky silts, rdish-brn, only few sli sdy/calc, lt gry matl, vsli blk asph stn, nsfo, also rd/pk gummy/sticky silts, few cleaner gry sdy silts w/sh inclusions, vis sd is clear, rmded, f-md grains

Marmaton

limestone, lt gry, dse, xtaln, rex, some sli fos, few org chert inclu, pscatt por, ns noted

limestone, lt crm-gry, dse, fxtaln, sli rex, trc fos, vpvis por, ns noted

limestone, wht-lt gry, stained redish brn by silt, dse, chlky, rex, coarse xtaln, ool/fos, scatt yel chert, scatt por, ns noted

limestone, lt gry to gry-wht, dse, sli chlky, rex, xtaln, ool, vpvis por, ns noted

Upper Pawnee

limestone, lt crm-gry, dse, chlky, fxtaln, rex, trc fos, vpvis fine pp por, some lt scatt stn w/dk brn fo specks, sli incr w/brkn

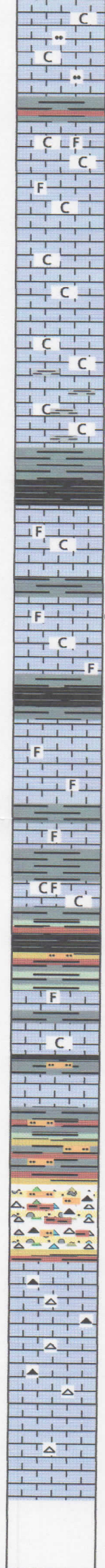
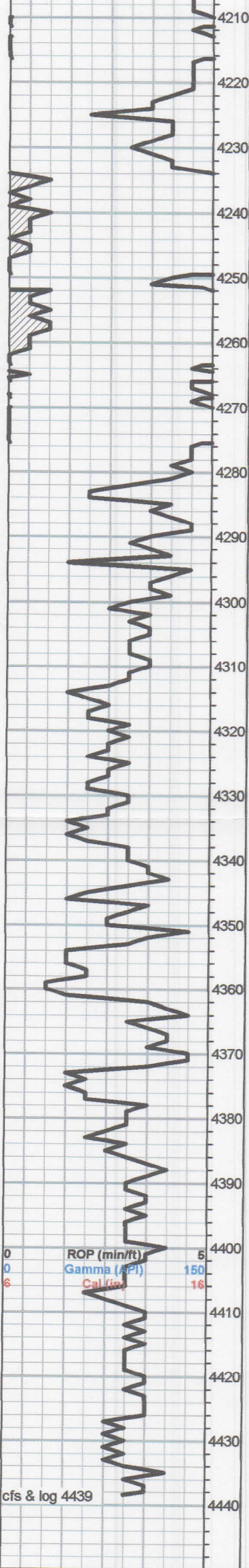
limestone, gry to lt gry, dse, chlky, fxtaln, sli rex, vp to no vis por, ns noted

DST#4.JPG
DST #4 Straddle 3980-4042
 Times: 30-60-30-60
 IF: weak 1/4" thruout open no return
 FF: no blow - no return
 Rec: 10 ft Mud
 IFF: 24-32# ISIP: 1100#
 FFP: 35-42# FSIP: 1004#

0	Total Gas (units)	50
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
0	C4 (units)	50

DST#3.JPG
DST #3 4015-4042
 IF: weak 1/4" to 3/4" - lost packer seat - reset would not hold - TOH
 IFF: 21-25# - approx 4 min
 Rec: 350 ft Mud
 no shows in tool, no wtr or shows in grind out

0	Total Gas (units)	50
0	C1 (units)	50
0	C2 (units)	50



same

same, limestone becoming silty, incr rd & gry sh

Lower Pawnee

limestone, lt crm to lt crm-gry, dse, chlky, rex, xtaln, sli fos, scatt pp por, sli spotty stn, few fo specks vis, sli incr fo & ft odor w/brkn

limestone, lt gry-crm-wht, dse, sli chlky, sli rex, fxtaln, vp vis por, ns noted

limestone, lt & dk gry, dse, incr chlky, fxtaln, sli rex, vp to no vis por, ns noted

limestone aa, incr dk gry, dse, chlky, fxtaln, sli rex, vp to nvis por, ns noted, incr gry calc sh

lg influx dk gry-blk sh

Ft Scott

limestone, dk crm-gry & lt crm-gry, dse, sli chlky, xtaln, rex, sli fos, pscatt pp por w/dk stn, few fo specks vis, sli incr fo, ft odor w/brkn

limestone, lt crm-gry & lt gry-wht, dse, sli chlky, fxtaln to xtaln, rex, fos, scatt pp & sm fos por, lt stn & brn fo specks vis in por, incr fo w/brkn, trc gas, ft odor & sli sheen in cup

Cherokee

limestone, lt crm-gry to gry-crm, dse, xtaln, sli rex to rex, sli fos, pvls por, ns noted

lt crm-gry, dse, limestone aa, ns noted

limestone, lt gry-wht, dse, chlky, xtaln, sli rex, sli fos, pscatt por, ns noted

influx rd, grn, gry, yel, mar sh & silts, sli rd wash

limestone, lt gry-wht & lt crm-gry, dse, sli chlky, xtaln, sli rex, pvls por, ns noted

limestone, wht & lt gry, dse, fxtaln, sli rex, vp to nvis por, ns

abdt vcs & silts aa, rd wash

Mississippian Chert

lg influx cherts, org, yel, beige, wht, opaque, shrp, silty, rd wash

Mississippian Limestone

limestone, wht to lt crm-gry, dse, coarse xtaln, chlky, sli rex, sli fos, sli chert, lt beige opq, ? trc stn, nsfo noted

limestone, sli dolomitic, lt gry-beige, dse, sli chlky, sli rex, fxtaln, pvls por, ns noted, lt gry trans & wht chert

limestone, less dolomitic, wht, dse, fxtaln, sli rex, incr wht chlky, less chert, pvls por, ns noted

Rotary Total Depth

0	C3 (units)	50
0	C4 (units)	56
0	Total Gas (units)	50
0	C1 (units)	50
0	C2 (units)	50
0	C3 (units)	50
0	C4 (units)	56