

ROBERT E. O'DELL

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY	Earle Creek Corporation	ELEVATIONS	KB 3176
LEASE	Simmons Farms #1-12	DF	3168
FIELD	Willicat	TSWSP	17S
LOCATION	1977 FSL & 1328 FWL	RGE	35W
SEC	12	Measurements Are All	From KB
COUNTY	Wichita	STATE	Kansas
CONTRACTOR	Val Drilling Rtd #4	SPUD	10-15-2013
COMP	10-27-2013	RTD	4965'
MUD UP	3500'	TYPE MUD	Chemical
SAMPLES SAVED FROM	3600'	TO RTD	
DRILLING TIME KEPT FROM	3400'	TO RTD	
SAMPLES EXAMINED FROM	3600'	TO RTD	
GEOLOGICAL SUPERVISION FROM 3475' to RTD			
GEOLOGIST ON WELL: Bob O'Dell & Dave Callewaert			
FORMATION TOPS		ELECTRIC LOG	
Heebner Shale	4017 (- 841)	2477 (+ 699)	4016 (- 840)
Lansing	4067 (- 1332)	4507 (- 887)	4063 (- 887)
Marmaton	4581 (- 1405)	4578 (- 1402)	4579 (- 1402)
Pawnee	4627 (- 1445)	4624 (- 1448)	4627 (- 1445)
Cherokee Shale	4802 (- 1628)	4799 (- 1623)	4802 (- 1628)
Morrow Shale	4907 (- 1731)	4902 (- 1726)	4907 (- 1731)
Mississippian Line			

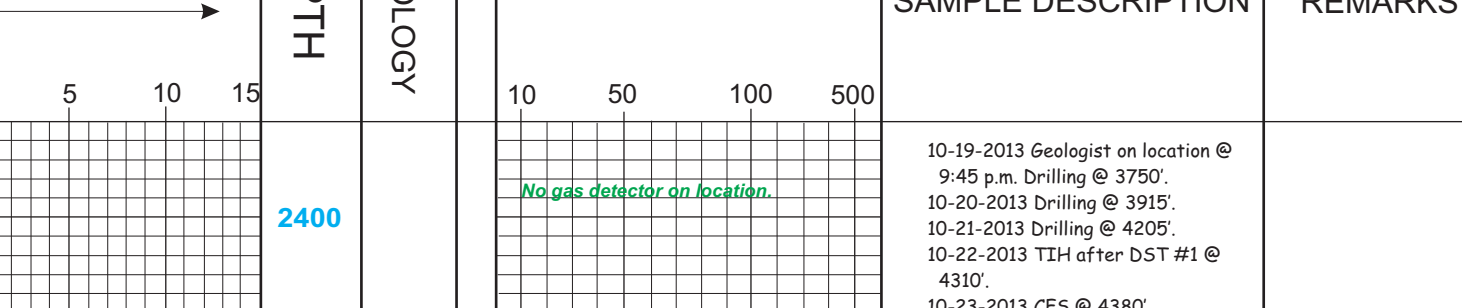
REMARKS Due to the positive drillstem test and electric log analysis in the Marmaton, decision was made to run 5-1/2" production casing and attempt completion through perforations

Respectfully Submitted,

Bob O'Dell

Note: Dave Callewaert was the geologist on location from 4450' to Total Depth.

DRILLING TIME IN MINUTES PER FOOT	DEPTH	LITHOLOGY	GAS SCALE	SAMPLE DESCRIPTION	REMARKS
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10-19-2013 Geologist on location @ 9:45 p.m. Drilling @ 3750'.
 10-20-2013 Drilling @ 3915'.
 10-21-2013 Drilling @ 4205'.
 10-22-2013 TH after DST #1 @ 4310'.
 10-23-2013 CFS @ 4380'.
 10-24-2013 GIH w/DST #4 @ 4540'.
 10-25-2013 Running DST #5 @ 4540'.
 10-26-2013 Drilling @ 4760'.
 10-27-2013 Logging @ 4980' RTD.

Lst-white, grey, f-c xin, fossiliferous, part argillaceous, no vis porosity

Shale-grey, calcareous

Lst-white, lt grey, f-m xin, fossiliferous, part chalky, no vis porosity

Lst-tan, f xin, granular, no vis porosity

Shale-lt grey, grey, soft

Lst-as above to very scattered lt grey, vf xin, cherty, poor xin & edge type porosity, very slight show free oil, no odor, no fluor, dark edge stn

Shale-grey, dark grey

Lst-lt grey, tan, vf-f xin, part cherty, part granular, poor xin porosity, no show

Shale-lt grey, calcareous, dark grey

Lst-tan, lt grey, f-c xin, fossiliferous, part chalky, no vis porosity

Lst-as above to white, f xin, granular, chalky, no vis porosity

Lst-white, vf xin, cherty, dense, no vis porosity

Shale-grey, green, part sandy

Lst-tan, grey, white, f-c xin, very fossiliferous, part granular, argillaceous, no vis porosity

Via 53 Wt 8.7 LCM 2#

Lst-tan, grey, f-c xin, fossiliferous, granular, argillaceous, no vis porosity

Shale-grey, dark grey, green

Lst-lt grey, white, vf-f xin, most cherty, brittle, no vis porosity

Lst-white, tan, f-m xin, fossiliferous, calcitic, fair xin porosity, no show

Lst-white, lt grey, vf-f xin, scattered granular, part chalky, no vis porosity

Lst-white, lt grey, vf-f xin, cherty, dense, no vis porosity

Lst-cream, f-c xin, calcitic, no vis porosity

Lst-white, f xin, part granular, part cherty, scattered fossiliferous, trace xin porosity, no show

Lst-cream, f-c xin, calcitic, no vis porosity

Shale-black

Lst-tan, lt grey, vf xin, cherty, dense, no vis porosity

Shale-grey, green, part calcareous

Lst-white, tan, grey, mottled, f-c xin, scattered fossiliferous, part chalky, part argillaceous, no vis porosity

Lst-white, f-m xin, fossiliferous, oolitic, scattered calcitic, scattered cherty, poor to fair xin porosity, no show

Lst-brown, tan, lt grey, vf-c xin, blocky, scattered granular, no vis porosity

Lst-tan, lt grey, f-m xin, calcitic, no vis porosity

Lst-white, f xin, part granular, part cherty, scattered poor vugular porosity, no show

Lst-as above to white, f xin, granular, chalky, soft, no vis porosity

Lst-tan, f-c xin, fossiliferous, calcitic, part argillaceous, no vis porosity

Lst-lt grey, tan, vf-f xin, cherty, dense, no vis porosity

Shale-black, carbonaceous

Shale-grey, lt green, sandy

Lst-white, f xin, fossiliferous, oolitic, part cherty, part calcitic, scattered chalky, very scattered poor xin porosity, slight show dead sticky oil, no odor, no fluor, scattered dark stn

Shale-dark green, grey, part calcareous

Lst-white, f xin, granular, chalky, scattered cherty, part dense, no vis porosity

Lst-white, f-m xin, oolitic, calcitic, scattered fossiliferous, part chalky, poor to fair interoolitic porosity, no show

Lst-white, vf xin, cherty, dense, no vis porosity

Shale-dark grey, dark green

Lst-tan, white, f-m xin, part oolitic, part cherty, part cherty, scattered fair xin porosity, no show

Lst-white, vf xin, cherty, no vis porosity

Lst-as above to white, f xin, granular, chalky, no vis porosity

Shale-black

Lst-lt grey, tan, f xin, granular, scattered argillaceous, no vis porosity

Lst-tan, white, lt grey, f xin, granular, chalky to lt grey, vf xin, very cherty, dense, no vis porosity

Lst-white, f-c xin, oolitic, calcitic, part chalky, no vis porosity

Lst-white, f xin, scattered oolitic, most chalky, no vis porosity

Lst-white, lt grey, vf-f xin, part cherty, dense, part granular, blocky, no vis porosity

Lst-tan, f xin, granular, part dolomitic, dense, no vis porosity

Lst-lt grey, vf xin, cherty, dense, no vis porosity

Lst-grey, vf xin, very cherty, dense, no vis porosity

Shale-black

Lst-tan, white, brown, f-m xin, part granular, part cherty, scattered fair xin porosity, scattered fair show free oil, faint odor, scattered dark stn

Lst-white, vf-f xin, part cherty, part chalky, no vis porosity

Lst-white, lt grey, vf-f xin, cherty, dense, no vis porosity

Shale-black, carbonaceous

Lst-tan, white, f-m xin, fossiliferous, scattered oolitic, scattered cherty, poor xin porosity, scattered fair show free oil, faint odor, dark spotted stn to saturation

Lst-white, f-m xin, granular, part fossiliferous, calcitic, scattered chalky, no vis porosity

Lst-white, lt grey, tan, f-c xin, oolitic, calcitic, scattered granular, fair to good oolitic, vugular & xin porosity, good show heavy free oil, good odor, no show

Lst-white, f-m xin, oolitic, calcitic, good oolitic porosity, no show

Lst-tan, f xin, cherty, calcitic, scattered fair to good oolitic porosity, fair show heavy free oil, good odor, dark saturation

Lst-white, f xin, granular, chalky, soft, no vis porosity

Lst-white, lt grey, f xin, fossiliferous, part cherty, no vis porosity

Lst-tan, lt grey, f-c xin, fossiliferous, scattered oolitic, calcitic, part chalky, poor oolitic porosity, no show

Lst-white, lt grey, vf-f xin, part granular, part cherty, scattered chalky, no vis porosity

Shale-dark grey, black

Lst-grey, f-c xin, oolitic, scattered cherty, blocky, no vis porosity

Lst-tan, lt grey, f xin, granular, scattered calcitic, part chalky, no vis porosity

Lst-lt grey, vf xin, cherty, scattered calcitic, dense, no vis porosity

Lst-lt grey, f xin, very calcitic, dense, no vis porosity

Lst-tan, f-m xin, granular, fossiliferous, calcitic, poor xin porosity, slight show flakey odor, no odor, no other show

Shale-dark grey, grey, black

Lst-cream, vf xin, oolitic, mostly light, no vis porosity, no show 2% with trace interxin porosity, fair to fair point heavy oil, spotted stn to saturation

Lst-tan, lt grey, vf-cryptoxin, slightly chalky, very sil fossiliferous, trace white chert, trace poor interxin porosity, most with no vis porosity

Shale-greenish grey to black

Lst-lt grey, vf xin, silty, trace pyrite, no vis porosity & shale-green & brick red

Shale-greenish grey

Lst-tan, grey, vf xin, slightly fossiliferous, argillaceous, no vis porosity

Lst-tan, brown, f xin, pelletal, fossiliferous, slightly argillaceous, no show

Lst-cream, tan, vf-f xin, slightly oolitic porosity, 99% no show, several pieces tan, vf-f xin, pelletal & trace fossiliferous, trace xin porosity, no show

Lst-tan, lt grey, cryptoxin, silty, no vis porosity, few pieces tan, vf-f xin, pelletal & trace fossiliferous, trace xin porosity, no show

Lst-cream, vf-c xin, oolitic, poor pinpoint & xin porosity, slight show free oil on break, scattered saturated stn, no odor

Shale-green Lst-cream, lt grey, very c xin, fossiliferous, pelletal, poor to fair pinpoint & trace vugular porosity, slight show free oil, scattered stn, very faint odor

Lst-cream, shows fading

Shale-green, grey

Lst-tan, lt grey, vf xin, silty, very slightly fossiliferous, no show & much shale-greenish grey

Shale-green, grey Lst-cream, tan, vf-cryptoxin, trace fossiliferous, Lst-cream, no vis porosity, no show

Lst-tan, oolitic, oolitic, some loose oolitic, scattered granular, fair to trace vugular porosity, slight show free oil, scattered lt brown stn, scattered saturated stn, no fluor, fair odor

Lst-cream, tan, vf xin, granular to cryptoxin very slightly chalky, slightly fossiliferous with trace interbedded white chert, no vis porosity, no show

Shale-black, carbonaceous

Lst-cream, grey, vf-c xin, 5% granular w/recrystallized calcite, trace fossiliferous, slightly argillaceous, no vis porosity, no show

Lst-cream, tan, vf xin, granular, trace pellets, very slightly fossiliferous, trace interxin porosity, no show

Lst-cream, tan, vf xin, slightly fossiliferous & slightly chalky, no vis porosity, no show & abundant chert, grey, no vis porosity, no show

Lst & Chert as above

Shale-black, carbonaceous

Lst-cream, tan, vf-f xin, slightly fossiliferous, pelletal, no vis porosity, no show

DST #1
 4247-4310
 30-45-30-60
 1st open: Weak 1/2" blow
 2nd open: Very Weak Surface Blow
 REC. 30' MW/Oil Specks
 FP: 19-24/25-30#
 SIP: 1103-1084#
 HP: 2103-2071#
 TMP: 104°

DST #2
 4318-4330
 30-45-60-90
 1st open: Fair 5" blow
 2nd open: Strong blow
 REC. 1' CO, 90' MW/Oil Specks, 185' SW
 FP: 20-60/62-142#
 SIP: 1230-1230#
 HP: 2175-2158#
 TMP: 114°
 Cht: 14,000 ppm
 Sys: 9,000 ppm

DST #3
 4510-4540
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #4
 4448-4540
 30-45-60-90
 1st open: Weak 1/2" blow
 2nd open: Fair 7" blow
 REC. 30-33/32-34#
 FP: 19-24/25-30#
 SIP: 1224-1180#
 HP: 2254-2158#
 TMP: 104°

DST #5
 4564-4568
 30-45-60-90
 1st open: Weak 2" blow
 2nd open: No blow
 REC. 45' MW/Oil spots
 FP: 30-33/32-34#
 SIP: 46-50#
 HP: 2254-2148#
 TMP: 104°

DST #6
 4578-4580
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #7
 4580-4582
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #8
 4582-4584
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #9
 4584-4586
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #10
 4586-4588
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #11
 4588-4590
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #12
 4590-4592
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #13
 4592-4594
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #14
 4594-4596
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #15
 4596-4598
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #16
 4598-4600
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #17
 4600-4602
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #18
 4602-4604
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #19
 4604-4606
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #20
 4606-4608
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #21
 4608-4610
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #22
 4610-4612
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #23
 4612-4614
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #24
 4614-4616
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #25
 4616-4618
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #26
 4618-4620
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #27
 4620-4622
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #28
 4622-4624
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #29
 4624-4626
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #30
 4626-4628
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #31
 4628-4630
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #32
 4630-4632
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #33
 4632-4634
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #34
 4634-4636
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #35
 4636-4638
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #36
 4638-4640
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #37
 4640-4642
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #38
 4642-4644
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #39
 4644-4646
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

DST #40
 4646-4648
 30-45-60-90
 1st open: Strong blow
 2nd open: Strong blow
 REC. 282' GIP, 219' CG D (20% 80%), 252' G COM (20% 20%, 60% 60%), 63' OC/DWH (15% 5%, 20% w/ 60% um)

