

Saman Sharifaie

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Martin Drilling Co., Inc.**
LEASE **Burk Trust "D" #3-23**

FIELD **East Fork**
LOCATION **1320 FSL & 330' FWL**
SEC **23** TWP **S** RGE **36W**
COUNTY **Randolph** STATE **Kansas**
CONTRACTOR **Martin Drilling #2**

RTPD **06/8/14** COMP **06/27/14**
SPUD **4:52:5** LTD **4:52:6**
MUD UP **3:15'** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3:20'** TO **RTD**
DRILLING TIME KEPT FROM **3:50'** TO **RTD**
SAMPLES EXAMINED FROM **3:50'** TO **RTD**

GEOLOGICAL SUPERVISION FROM **3:20'**
REFERENCE WELL MDICI - Burk Trust "D" #1-23

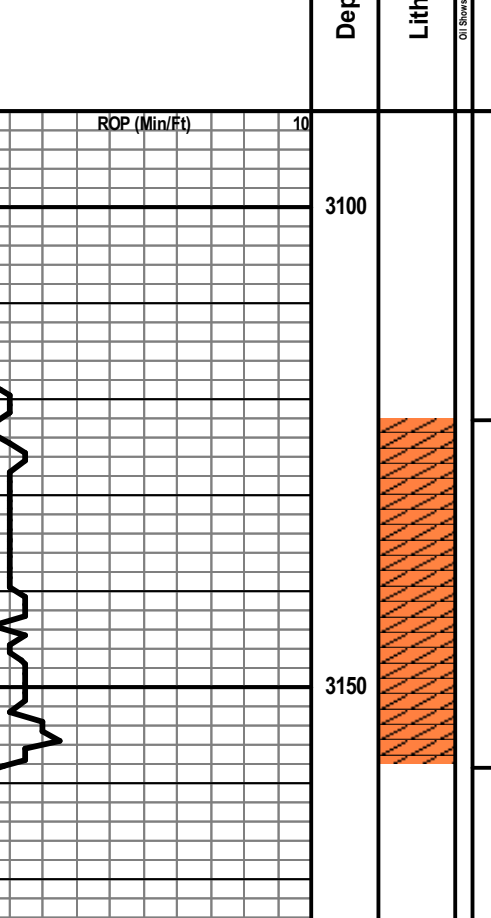
FORMATION **Sample Tops** **E-log Tops** **Strat Pos.**

Amhydrite	3120 (+106)	3122 (+104)	+7
Base Amhydrite	3158 (+68)	3258 (+68)	+3
Neva	3610 (-384)	3610 (-384)	+7
Tridake	3722 (-496)	3720 (-496)	+5
Tridake	3728 (-496)	3934 (-708)	+8
Ordred	4050 (-824)	4057 (-831)	+5
Lansing	4154 (-928)	4157 (-927)	+3
Stark	4374 (-1148)	4372 (-1146)	+6
BKC	4424 (-1198)	4422 (-1196)	+4

ELEVATIONS
KB **3226'**
DF _____
GL **3215'**
Measurements Are All From Kelly Bushing

CASING
CONDUCTOR _____
SURFACE **8-5/8"** at **22.5'**
PRODUCTION **5-1/2"** at **4518'**

ELECTRICAL SURVEYS
CND; DIL; MEL; SANC
Pioneer Wellfile



REMARKS Due to fair shows of oil in multiple potential pay zones and positive DST results, it is recommended and agreed upon by all parties that production casing be set to further evaluate this well.

Respectfully Submitted,
Saman Sharifaie
Petroleum Geologist

API #15-153-21024
*Tops have been adjusted to electric logs

Depth	Lithology	Geological Descriptions	Engineering Data
3100 - 3150	Anhydrite	Anhydrite 3122 (+104) Anhydrite Base 3158 (+68)	
3500 - 3650	Conn	DAILY PENETRATION @ 7:00 AM 06/18/14 - Spudded at 9:00 AM 06/19/14 - Drilling at 1230' 06/20/14 - Drilling at 3504' 06/21/14 - Drilling at 4850' 06/22/14 - Testing at 3800' 06/24/14 - Testing at 4226' 06/24/14 - Testing at 4290' 06/25/14 - Testing at 4389' 06/26/14 - Logging at 4525'	Morgan Mud @ 3504' Wt: 8.6 Vis: 58 Chl: 6.0 LCM: 10# Pipe Strap @ 3504': 0.33' Short to Board Deviation Survey: 1/2°
3650 - 3750	Conn	Silst., brn/omg/lt gry, v-fn gr, srt'd, reat'd, fr intgran & xin por, fr, sub-mdd, Tr, pyr, n/s Silst., crm, fn gr, srt'd, reat'd, fr intgran & xin por, calc, fr, sbang, scat gry/gn Sh, n/s Silst., brn/dk omg/lt gry, v-fn gr, srt'd, pr-fr intgran por, sub-mdd, calc, fr, scat gry Sh, Tr, pyr, n/s Sh, gry, bily to sli fess, pyrc IP Silst. & Sh., a.a, gn IP, Tr, pyr Silst., brn, fr-med gr, srt'd, pr-fr intgran por, rdd, fr to sfi/gmy, sndy & calc IP, scat dk gry fess Sh, n/s Sh, gry, mica IP, sli stly, fess to bily	
3750 - 3850	Conn	Neva 3610 (-384) Ls., crm, sing, fn xin, foss, pr intOoic por, dns, calc cmt, hd to sub-chky, sbang to bily, n/s Sh, gry/gn, bily to fess IP Ls., crm/ta/lt gry, sli mott IP, fn xin, pr intfoss por, dns, calc, sli hd, sbang, n/s Silst., brn, v-fn gr, srt'd, pr-fr intgran por, sub-mdd, fr to sfi/mody, calc IP, scat dk gry Sh, n/s Sst., lt gry/lt gn, v-fn gr, srt'd, pr-fr intgran por, consl, hd to fr IP, sub-mdd to bily, n/s Sh, varic, stly IP	
3850 - 3950	Conn	Red Eagle 3671 (-445) Ls., crm, fn xin, foss, pr pp intOoic por, calc, hd to sub-chky, intbdd omg rem, n/s Sh, gry, pyrc, fess IP, abund brn Silst Ls., tan/lt gry/purp, v-fn xin, NVP, dns, scat gry Sh Ls., tan/crm, fn xin, Tr pr intfoss por, dns to sub-chky, scat dd blk spk'd sh, sli gils, no odr, NSLO	
3950 - 4050	Conn	Foraker 3720 (-494) Silst., brn, v-fn gr, srt'd, fr to gmy, fr intgran por, sub-mdd, calc IP, scat dk omg/gry Sh, n/s Silst., a.a, incg gry Sh Ls., crm, fn xin, foss, v pr micr Ooic por, li, dns, calc cmt, bily abund purp Silst, scat dk brn/blk sp'd surf str, gils IP, Tr di yel fluor, v fnt odr, NSFO Ls., gry/brn/purp, fn xin, Tr pr intpart por, pred NVP, dns, pyrc IP, shly, n/s Ls., crm/brn/purp, sli mott, fn xin, foss, pr micr Ooic & intfoss por, dns, calc, hd to chky, n/s Dol., tan, fn xin, Tr, foss, pr intbn por, sli calc, dns, brit, sbang to bily, pyrc IP, scat Chk, n/s Sh, brn/omg, stly to gmy Sh, gry/dk brn, bily, pyrc IP, sli stly Ls., crm, sing, fn xin, foss IP, Tr pr pp intOoic por, dns, calc IP, sli chky, sbang to bily, glauc IP, n/s Sh., omg/gry/varic, sli stly, fess IP Ls., purp/lt gry/gn, fr-med xin, sli stly, pr intbn por, sub-mdd, glauc, pyrc IP, incg brn Silst Silst., brn, fn gr, srt'd, fr, fr intgran por, sub-mdd, calc IP, scat dk omg/gry Sh Ls., crm, sing, v-fn xin, NVP, sli dolc IP, v calc, hd, bily, glauc IP, n/s Ls., gry, sing, fn xin, dns, foss IP, pyr, incg gry Sh Sh, gry/blk/brn, stly to gmy IP, Tr dk gry carb, Sh, brn/omg, stly to gmy	
4050 - 4150	Conn	Stotler 3870 (-644) Ls., crm/ta/lt gry, mott, fn xin, Ooic IP, pr vis por, dns to chky, calc IP, ti, glauc IP, sbang, n/s Sh, gry, bily to fess, pyrc IP, scat Ls a.a Sh., omg/brn, stly, sub-mdd, argil	Morgan Mud @ 3866' Wt: 9.0 Vis: 62 Chl: 6.0 LCM: 11#
4150 - 4250	Conn	Topeka 3934 (-708) Ls., crm/ta/lt gry, mott IP, fn xin, pr intfoss por, chky to sli hd, calc, sbang, intbdd omg Sh, Tr glauc, n/s Sh, brn/gry, dns, bily, sli argil Ls., crm/wh/lt gry, v-fn xin, Tr, foss, NVP, v dns, calc, sbang to bily, sub-chky IP, Tr, Chk, n/s Ls., a.a, pred lt gry, incg chky Sh, brn/omg, stly to gmy Silst., brn/dk omg, fr-med gr, srt'd, fr, fr intgran por, sub-mdd, consl, sli calc, abund gry/gn Sh, n/s Sh, gry/gn, bily to sli fess, argil	
4250 - 4350	Conn	LeCompton 4003 (-777) Ls., crm/lt gry, mott, fn xin, pr intbn por, dns, calc, ang, frac, hd to sub-chky IP, abund sly purp Sh, n/s Ls., tan, sing, micr-vf xin, NVP, dns, calc, hd, bily, n/s Sh, purp/varic, stly, sub-mdd Sh, dk omg, sli stly, pyrc Sh, gry, fess, brit	DST #1 (Oread) 4024'-4080' 30-60-60-90 IF: Weak, surface blow FF: No blow Rec: 2' M (100%M) IFP: 13 - 16 FFP: 16 - 16 ISIP: 199 FSIP: 158 IHP: 2036 FHP: 2084 BHT: 134°
4350 - 4450	Conn	Oread 4057 (-831) Ls., crm/gry/ta, sli mott, fn xin, foss, pr intOoic por, pt dns, hd to chky, frac, bily, n/s Ls., crm/ta/lt gry, sing, fr-med xin, pr-fr intbn, dns, hd, bily, v calc, Tr, Chk, n/s Sh, gry, mica, pyrc, fess IP Ls., tan/gry/crm, sing, v-fn xin, NVP, dns, calc IP, hd to chky, sbang to bily, n/s Ls., crm/ta/lt gry, v-fn xin, NVP, dns, bily, sub-chky IP, scat pyr, n/s Sh, dk gry, sli carb Ls., gry/brn, micr-vf xin, NVP, dns, sli calc IP, bily, n/s Sh, gry/omg/brn, stly IP Sh, gry/omg/brn, stly to mdy IP, pyrc IP	Morgan Mud @ 4080' Wt: 9.0 Vis: 55 Chl: 6.0 LCM: 10# Deviation Survey @ 4080': 1°
4450 - 4550	Conn	Lansing 4253 (-927) Ls., crm/ta/lt gry, sing, micr-vf xin, NVP, dns, calc IP, hd to chky, frac, bily, n/s Ls., tan/crm, sing, micr-vf xin, NVP, dns, calc IP, hd to chky, sbang to bily, Tr glauc, n/s Sh, gry/gn, sli stly, pyrc IP Sh, brn/dk omg, stly, w/ Sh, gry, fess, mica IP, sft Ls., wh/crm, v-fn xin, foss, fr micr Ooic & intfoss por, sli fr, pyrc, fr amt blk sp'd str, lt-mod sat, sli bid pp FO, irid OCW, bri flour, no odr, VSSFO Sh, dk gry/brn, stly IP Ls., crm, fn xin, foss, fr-gd micr Ooic & vug por, pt dns, sli fr to sub-chky, calc IP, bily, scat dk brn sp'd str, lt pt sat, rr pp FO bid, Tr G Bubs, sli irid OCW, di yel fluor, no odr, irid OCW, F-CSPFO Sh, gry/gn, sli fess, pyrc IP, incg brn stly w/ dpth Sh, brn/omg/purp, stly, Lmy Sh, omg/brn, stly to gmy IP, bily Sh, gry/gn, sli fess, pyrc IP Sh, gry, sli stly, pyrc IP Ls., crm, fr-med xin, fr intbn & foss por, pt dns, calc, sli suc, hd to chky, bily, scat blk sp'd str, lt pt sat, rr pp FO bid, irid OCW, bri gn flour, int odr, VSSFO Ls., a.a, scat fr-gd vug por, incg irid, Tr G Bubs	Morgan Mud @ 4226' Wt: 9.2 Vis: 60 Chl: 6.0 LCM: 16# Deviation Survey @ 4226': 1/2°
4550 - 4650	Conn	DST #2 DST #3 DST #4	Morgan Mud @ 4290' Wt: 8.6 Vis: 60 Chl: 5.6 Chl: 1,100 LCM: 28# *Lost circ THH after DST#3 DST #3 (LKC G) 4238'-4290' 30-60-60-90 IF: Blow built to 8 1/2" FF: Blow built to 44 mins Rec: 140' CO (100%O), 63' OCM (65%M, 35%W)
4650 - 4750	Conn	Stark 4372 (-1146) Sh, blk carb/gry, pyrc IP Sh, gry/dk omg/brn, fess IP, stly to gmy Ls., crm/ta/lt gry, fn xin, Tr, foss, pr vis por, calc, dns, pred hd to sli fr, bily, sub-chky IP, n/s Sh, dk gry/gry/blk, sli carb, mica Ls., crm/ta, sli mott, fn xin, foss, pr vis por, dns, calc, sbang, sub-chky IP, n/s Sh, brn, stly, bily Sh, gry, fess Ls., crm/wh/lt, fn xin, pr intbn & foss por, Tr vug por, calc, hd to chky, bily, scat dk brn/blk sp'd str, lt pt sat, rr pp FO bid, Tr G Bubs, sli irid OCW, di yel fluor, no odr, irid OCW, F-CSPFO	Morgan Mud @ 4390' Wt: 9.0 Vis: 69 Chl: 5.2 Chl: 1,000 LCM: 26# Deviation Survey @ 4390': 1/2°
4750 - 4850	Conn	BKC 4422 (-1196) Ls., crm/ta/lt gry, micr-vf xin, Tr pr intbn & foss, sli dns to sub-chky, sbang to bily, n/s Sh, brn/gry, stly, scat lt gn Sst Ls., crm/ta, mott IP, v-fn xin, foss IP, pr vis por, pt dns, calc IP, hd to chky, n/s Sh, dk omg/brn, stly IP, gmy IP, pred dns & bily Sh, crm/gry/purp, sing, fr-med xin, pr vis por, fr to sli sft, suc IP, chky IP, sub-mdd, n/s Sh, gry/gn/purp, sli fess, mica IP Ls. & Sh., a.a, calc IP Sh, gry/purp, sli stly, bily to sub-mdd, sft to brit Ls., gry, sing, fr-med xin, sli stly, pr intbn por, suc, sub-mdd, fr, scat pyr, n/s	DST #4 (LKC J) 4326'-4390' 30-60-30-60 IF: Weak, surface blow FF: No blow Rec: 3' M (100%M) IFP: 18 - 21 FFP: 20 - 22 ISIP: 740 FSIP: 514 IHP: 2181 FHP: 2060 BHT: 136°
4850 - 4950	Conn	RTD 4525 (-1299)	Deviation Survey @ 4525: 1/2°