



**GEOLOGISTS' REPORT**

OPERATOR **MURFIN DRILLING COMPANY, INC.**  
 LEASE **PETERSON 'A' # 1-6**

LOCATION **895 FNL & 1725 FEL**  
 SEC. **6** TWP **8S** RGE **14W**

COUNTY **OSBORNE** STATE **KANSAS**

FIELD **WILDCAT**

CONTRACTOR **Murfin Drilling Company** RIG NO. **8**  
 COMMENCED **10 SEPT 2011** COMPLETED **20 SEPT 2011**

MUD DISPLACED **2389** MUD TYPE **Chemical**  
 DRILLING TIME KEPT FROM **225** TO **3770**

SAMPLES SAVED FROM **250** TO **3770**  
 SAMPLES EXAMINED FROM **250** TO **3770**

GEOLOGICAL SUPERVISION FROM **564** TO **3770**  
 GEOLOGIST ON WELL **Paul Gunzelman**

FORMATION **LOG** **SAMPLE**  
 NAME **DATUM** **DATUM**

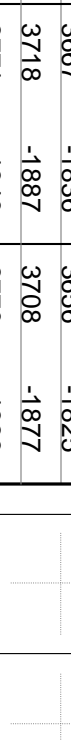
Stone Corral 1112 +719 1113 +718  
 Base/Anhydrite 1146 +685 1147 +684  
 Topoka 2753 -922 2754 -923  
 Heedner Shale 2986 -1155 2988 -1157  
 Lansing 3032 -1201 3033 -1202  
 Base/Kansas City 3312 -1481 3311 -1480  
 Viola 3522 -1691 3520 -1689  
 Simpson 3667 -1836 3666 -1825  
 At buckle 3718 -1887 3708 -1877  
 Total Depth 3771 -1940 3770 -1938

ELEVATIONS  
 KB **1831 Ft.**  
 GL **1826 Ft.**

ALL MEASUREMENTS FROM K.B.

CASING RECORD  
 Conductor None  
 Surface **8 5/8" @ 220'**  
 Production None

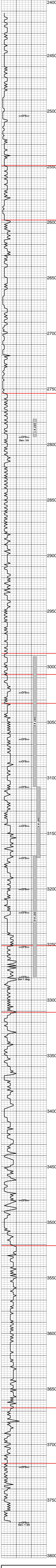
ELECTRICAL SURVEYS:  
 Log-Tech, Inc.  
 Comp. Neutron Density  
 Dual Induction  
 Micro-resistivity  
 Comp. Sonic



**REMARKS**

API 15-141-20434-00-00  
 Drilling Fluids: Mud-Co/Service Mud, Inc. (Gary Schmidtberger, engineer)  
 Drill Stem Testing: Trilobite Testing, Inc. (Dustin Rash, tester)  
 Gas Trailer: Earth-Tech OGL, Inc. (unmanned)  
 Reserve Pit Chlorides: 37,000 PPM

DEPTH	SAMPLE DESCRIPTIONS	REMARKS
250	Sh: V.dk gy, dk gy-brn, fis, cons carb mat & crm Ls inc, tr foss (Brach).	
300	Sh: Dk gy & gy-brn, v.thn fis, cons crm Ls inc, tr crm & lt gy v.shly Ls, some Anhy.	
350	Sh: Dk gy-brn, fis, much crm-gy, sdy shly Ls, some vfn sd.	
400	Sd: V.lt gy, vfn-fn, sbang-rnd, fros, uncon.	
450	Sd: Lt gy, vfn-fn, some med, tr pyr, sbang-rnd, uncon.	
500	Sd: Lt gy & tn, slit-vfn, ang-sbrnd, uncon.	
550	Sd: V.lt gy, vfn-vfn, sbang-sbrnd, tr pyr, uncon.	
600	Sd: Lt gy, vfn-fn, uncon, sbang-sbrnd.	
650	Sd: Crm yel v.lt gy tr or, sbang-rnd, uncon, some lt gy arg glauc stlst, intbd gy & dk gy fis sh.	
700	Sd: Lt gy, slit-vfn, sbang-sbrnd, occ dk gy sh inc, fri clus-uncon.	
750	Sd: Lt gy, vfn-vfn, sbang-sbrnd, some arg-shly, occ lt gy stlst.	
800	Sd: Lt gy, vfn-vfn, some lt gy arg stlst, sli pyr, intbd lt gy fis stly sh, tr carb mat.	Dev: 1 1/4 deg. @ 722'
850	Sd: Lt gy, vfn-fn, some med, sbrnd, fros, uncon.	
900	Stlst: Rd-or, v.arg, some sdy, much lt gy vfn-fn sbrnd-rnd uncon fros sd.	
950	Sh: Gy & lt gy, fis, tr slty & carb mat, cons rd-or v.arg stlst.	
1000	Sh: Gy & lt gy, fis, sli pyr, tr carb mat, cons rd-or v.arg-shly stlst.	
1050	Sh: Lt gy, fis, sli pyr, cons rd-or arg-shly sdy stlst.	
1100	Sh: Gy & lt gy, fis, thn fis, tr pyr, cons rd-or v.arg stlst.	
1150	Sh: Lt gn, fis, some slty, cons v.lt gy Gyp, tr carb mat.	
1200	Sh: Gy & lt gy, fis, some slty, cons rd-or arg sdy stlst & shly sd.	
1250	Anhy:Gy & lt gy, sli pyr, some gy fis sh.	<b>STONE CORRAL</b> 1112 (+719)
1300	Sh: Rd-brn brn rd-or & yel, blk, ea, occ v.sly.	<b>BASE/ANHYDRITE</b> 1146 (+685)
1350	Sh: Rd-brn brn tn yel & rd-or, some slty, occ v.lt gn sli arg stlst.	
1400	Sh: Rd-brn brn & rd-or, tr yel, ea, occ slty, some crm-lt gy sli arg calc stlst.	Dev: 1 deg @ 1226'
1450	Sh: Gy dk gy & gn-gy, fis, some slty & mica, intbd v.lt gy sli arg stlst.	Mud-Co. mud check @ 1256' Drilling w/ Water Chlor: 8,200 ppm
1500	Sh: Rd-brn, brn & rd-or, cons gy & lt gy fis sh, occ slty, intbd lt gy & gn-gy arg stlst.	
1550	Stlst: Lt gn-gy & lt gy, arg, sli pyr, some intbd gy sh.	
1600	Sh: Gy gn-gy & gy-brn, fis, sli pyr, much intbd lt gy & gn-gy arg stlst, occ sdy.	
1650	Sh: Gy gn-gy & lt gn, fis, slty, some pyr, intbd lt gy fn mica ang-sbang v.fri sd.	
1700	Sh: Rd-brn, some purp mar & lt yel, blk, occ slty.	
1750	Sa: Gy-dk gy, tr wh, some shly.	<b>SALT</b> 1487 (+344)
1800	Sa: Gy-v.lt gy, trnsl, some arg.	
1850	Ls: Crm-gy, gran, slty, sli arg, sbchky, much gy lt gy & gn-gy fis sh, some lt gy-brn v.arg stlst.	
1900	Sh: Gy & lt gy, fis, slty, cons lt gy arg sli pyr stlst, tr tn fxln dns Ls.	
1950	Ls: Crm-lt gy, fxln, mott w/dk gy sh & tn-gy rexlzd ool, tr pyr, n/s.	
2000	Sh: Gy & gy-gn, fis, tr pyr.	
2050	Dol: Crm-fn, fnly suc, tr lmy, some arg, fr-gd intran por, n/s.	<b>HERRINGTON</b> 1680 (+151)
2100	Dol: Crm-v.lt gy, fnly gran, arg, tr spr calc, much rd-brn blkly slty sh.	Dev: 1/4 deg. @ 1734'
2150	Dol: Crm, v.fnly gran, occ lmy, tr pyr, some sbchky, gd intran por, n/s.	<b>WINFIELD</b> 1732 (+99)
2200	Sh: Rd-brn & gy, some rd-or & mar, blk, occ mott, pt slty.	
2250	Ls: Crm, gran, some dol, tr dk gy sh inc, occ sbchky, cons gy & gy-gn fis sh, some v.sly.	
2300	Ls: Crm-gy, fxln-gran, sbchky, tr dk gy sh inc, pr-fr intran por, n/s.	<b>TOWANDA</b> 1804 (+27)
2350	Ls: Wh-crm, fxln-gran, some dol, tr dk gy sh inc, fr intran por.	
2400	Sh: Gy gn-gy & dk gy, fis, occ v.sly, some wh-v.lt gy fxln sli foss Ls, n.v.p.	
2450	Ls: Wh-crm, fxln, tr org rem, sbchky, some arg, n/s.	
2500	Ls: Crm, some lt gn & yel, fxln, tr org rem, occ sbchky, pt arg, n.v.p.	
2550	Ls: Crm-v.lt gy, fxln, sbchky, tr dk gy sh inc, cons rd-brn v.arg stlst, n/s.	
2600	Ls: Wh-crm, fxln, sbchky, tr org rem, cons rd-brn blkly occ slty sh.	
2650	Sh: Gy & gn-gy fis, occ slty, much rd-brn blkly ea sh, lt gy lt gy-gn & crm sli pyr stlst.	
2700	Ls: Gy, some crm-gy, fran, cons rexlzd ool, gd v.sml oom por, n/s.	<b>NEVA</b> 2154 (-323)
2750	Ls: Crm, tr tn, fxln, ool, sbchky, cons spr calc, pr intran por, n/s.	
2800	Sh: Gy-gn, fis, some v.sly, intbd crm lt gy gran sli dol smwt arg Ls, n/s.	
2850	Sh: Gy-gn gn & rd-brn some mott, much slty.	<b>FORAKER</b> 2276 (-445)
2900	Ls: Tn, fn-vfxln, some dk gy sh inc, n.v.p.	
2950	Ls: Crm-tn, fxln, some tn-gy & arg, n.v.p.	
3000	Sh: Lt gn & gy-gn, fis, some calc-lmy, intbd wh-crm fxln sbchky Ls.	



Sh: Gy-gn-gy & lt gy, fis, some slty & mica, tr pyr & carb mat, wh & lt yel sbchky Ls, n.v.p.

Sh: Gy-gn & med gy, fis, much slty, some lt gy fr-vxln arg dns Ls, n.v.p.

Sh: Gy-dk gy, fis, some v.slty, sli pyr, dk gy & tn mott vxln arg Ls, n.v.p.

Ls: Crm, fxln, tr org rem, some sbchky, bcm crm-gy fr-vxln, arg-shly dns, n/s.

Ls: Tn, fxln, dns, intbd gn & gy-gn fis slty sh, tr org rem.

Sd: Crm-gy & v.lt gn-gy, vfn, some slt, ang-sbang, glauc, tr pyr, arg, fr-gd intran por, n/s.

Ls: Tn-brn, mott w/dk gy sh, tr org rem, dns

Stst: V.lt gy, some crm-lt gy arg, sli calc, tr mica, pts sdy, n/s.

Sh: Gy & lt gy, fis, mica, slty, tr carb mat.

Stst: V.lt gy, lt gn-gy, vfn, mica, slty, lri, smwt arg, n/s.

Ls: Tn-brn, fxln, foss, pyr, occ arg-shly, dns, n/s.

Ls: Crm, fxln, foss, tr ool, chky-sbchky, intbd lt gy & lt gn-gy gum sh.

Ls: Crm, fxln, foss, sli ool, sbchky, sli arg, n.v.p, n/s.

Stst: Gy, tr tn-gy, sli pyr, arg, some vfn sd, fr intran por, n/s.

Ls: Tn, fxln, sli foss, bcm tn-gy & arg, intbd gy fis sh, n.v.p, n/s.

Ls: Brn & gy-brn, vxln, foss, smwt arg, dns, bcm crm fxln sli foss, some sbchky, n/s.

Sh: Dk gy, fis, sli pyr, some slty.

Ls: Crm, fxln, tr org rem, some dk gy sh inc, tr amor calc, arg in pt, n.v.p.

Sh: Gy-dk gy, thin fis, sli pyr, occ slty.

Ls: Tn-gy, fxln, much mott w/dk gy sh inc, some org rem, tr spr calc, bcm v arg, n.v.p.

Sh: Dk gy, fis, slty, sli pyr, some lt gn calc-lmy sh.

Ls: Crm, fxln, v.foss (Fus) tr sbchky, cons spr calc, some arg, n/s.

Sh: Gy-lt gy, fis, slty, tr carb mat, some gum.

Stst: Gy-dk gy, sli pyr, tr mica & glauc, arg, some sdy, n/s.

Sh: Dk gy & gy-brn, fis, some calc.

Ls: Tn, fxln, dk tn rextzd org rem, tr sbchky & sli arg in pt, n.v.p.

Sh: Gy, gy-brn, fis, tr slty, intbd lt gy & v.lt gy-gn sli mica v fn slst, n/s.

Ls: Crm, gran-frag, cons yel ool, sli arg-shly, n/s.

Ls: Crm, fxln, foss (Fus) glauc, tr sbchky, n.v.p.

Ls: Crm-lt gy, fr-vxln, foss (Brach) sbchky, occ v arg, n.v.p.

Ls: Crm, vxln, w/dk-sbchky, sli foss (Brach) intbd gy-dk gy fis sh, n.v.p.

Ls: Tn-gy, gran, dol, arg, some spr calc, pr pp & intran por, gd odor, fr shw FO, med brn even sat stn.

Ls: Crm, fxln, tr org rem, intbd dk gy fis slty sh, n.v.p.

Ls: Crm-lt, mott w/dk gy sh & org rem, fxln, intbd dk gy sli pyr sh, n/s.

Ls: Gy, tr tn-gy, fxln-vxln, sbchky, tr org rem, some arg, n.v.p.

Ls: Crm-lt, fr-vxln, tr sbchky, occ dk gy sh inc, cons spr calc, tr org rem, n/s.

Ls: Crm, fr-vxln, foss (Brach, Crin) some arg, tr sbchky, n/s.

Ls: Crm, occ crm-gy, fxln-gran, sbchky, foss, some gy & dk gy op mott cht, pts arg, n/s.

Ls: Tn-gy, fr-vxln, mott w/dk gy sh, chky, tr foss, gen dns, n/s.

Sh: Blk, thin fis, carb, bcm gy dk gy & gy-brn fis-biky, sli pyr, slty, some brn & gy-brn mott vxln dns Ls.

Ls: Wh-crm, vxln, sbchky, dns, tr frac, n/s.

Ls: Wh-v.lt gy, vxln, sbchky, some arg, tr amor calc, n.v.p.

Ls: Wh-lt gy, fr-vxln, dns, tr org rem, some arg-shly, n.v.p.

Sh: Gy & gy-brn, fis, some vgt, slty.

Ls: Tn-gy, fxln, mott w/dk gy sh, some gy op vit cht, sli foss & pyr, n.v.p.

Sh: Blk & v.dk gy-brn thin fis, carb.

Ls: Crm, fr-vxln, v.chky, foss (Fus, Crin) intbd lt gn calc sli pyr occ gum sh, n/s.

Ls: Crm, occ tn & lt gy, fxln, chky-sbchky, foss (Fus) some dk gy sh inc, tr wh-brn mott op cht, n/s.

Ls: Crm-wh, fxln, sbchky, tr pyr, some amor calc, occ crm-lt gy & arg, tr pp por, n/s.

Ls: Crm-gy, fxln, chky, cons dk gy sh inc, sli foss (Fus) some intbd gy fis sh, n.v.p, n/s.

Ls: Crm-gy, fxln, chky, sli foss (Fus) tn & gy op vit cht, some arg, n.v.p.

Sh: Blk, thin fis, carb, sli shw G, bcm gy-gy-brn & gy-gn fis occ slty sli calc sh, intbd gy vxln dns Ls & olv gn sli calc v arg slst.

Ls: Crm & lt gy, fxln, chky, sli pyr, tr amor calc, tn & gy mott op cht, pr pp por, no odor, v.sli shw lt brn FO, r. spid stn.

Ls: Wh-crm, fxln-gran, v.chky, some spr calc, fr intran por, n/s.

Sh: Gy-gn, fis, some calc, bcm rd-brn ea.

Ls: Crm, fxln, foss (Brach) n.v.p.

Sh: Gy-gn & lt gn, fis-biky, calc, pyr, tr org rem, bcm rd-brn ea occ gum.

Ls: Tn-gy, gran, tr spr calc, sli arg, pr intran por, gd odor, v.sli shw FO, r. spid stn.

Ls: Crm-lt gy, fxln, sbchky, occ arg, tn & gy-brn op-trnsl vit cht, some spr calc, n.v.p, n/s.

Sh: Gy & gy-gn, fis, sli pyr, occ calc.

Ls: Wh-v.lt gy, fxln, sbchky, sli ool, tr pyr & amor calc, pr intran por, tr frac por, fr odor, no FO, lt sply stn.

Ls: Crm-lt gy, fxln, sli foss (Brach) tr sbchky, wh & tn op-trnsl vit cht, n.v.p.

Sh: Dk gy, fis, sli pyr, cons carb mat.

Ls: Wh-crm, fxln, foss (Fus) cons spr calc, some sbchky, pr-fr pp por, sli odor, v.sli shw FO, v.spily stn.

Ls: Wh-crm, fr-vxln, occ sbchky, some sec calc, n.v.p.

Sh: Blk, thin fis, carb, some wh-crm fxln Ls & gy dk gy & gy-gn fis sh, pr pp por, sli odor, no FO, tr lt sply stn.

Ls: Crm, fxln-gran, tr ool, occ amor calc, pr intran por, n/s.

Sh: Lt gn gy-gn & olv gn, fis-biky, sli pyr, some slty & calc.

Ls: Crm, fxln, ool, cons sec calc, sbchky, some dk gy sh inc, pr intool por, n/s.

Ls: V.lt gy, fr-vxln, some spr-dru calc, cons chky, fr vug por, fr odor, v.sli shw v.lt FO, lt sply stn.

Ls: Wh, tr wh-crm, fxln, sli ool, sbchky, n.v.p.

Ls: Crm, vxln, sbchky, dns, tr frac & spr calc, n/s.

Sh: Blk, thin fis, carb, bcm dk gy & gn-gy thin bdd fis v.alty.

Ls: Crm, fxln, chky-sbchky, tr ool & pyr, some amor calc, n/s.

Ls: Tn, fr-vxln, silic, tr lt gy & tn trnsl fra cht, n.v.p.

Ls: Crm, fxln, sbchky, tr spr calc, n.v.p, n/s.

Sh: Dk gy & dk olv gn, fis, sli pyr, some blk carb.

Ls: Wh-crm, fxln, tr org rem, cons spr calc, tr sbchky, some crm & lt gy mott trnsl cht, pr pp por, no odor, v.sli shw FO, r. v.lt stn.

Sh: Gy-gn, lt gn & olv gn, tr dk gy, fis, sli pyr, some slty.

Ls: Crm, fxln, sli foss (Fus) tr sbchky, some spr calc, n.v.p, n/s.

Ls: Crm-v.lt gy, fxln-gran, sbchky, cons spr calc, pr intran por, n/s.

Sh: Blk, thin fis, carb, bcm gy-gn & dk olv gn fis sli calc, some intbd gy-brn slty sh.

Ls: Crm, n.v.p, tr crm-v.lt gy, sbchky, tr ool & spr calc, n.v.p, n/s.

Ls: Tn-gy, fxln, sli pyr, tr sbchky, some dk gy sh inc, n.v.p, n/s.

Sh: Blk, thin fis, carb, bcm lt gn-gy & lt gn fis-biky pyr, occ calc-lmy, some slty.

Ls: Crm-lt, fxln, sli ool, tr dk gy sh inc, some sbchky, n.v.p.

Ls: Lt gy-lt, fxln, cons org rem, sli pyr, dk gy sh inc, occ chky, n.v.p.

Ls: Lt gy, fxln, chky-sbchky, pyr, occ arg, n/s.

Sh: Blk, fis, carb, bcm dk gy & gy-gn, fis, smwt calc, occ slty.

Ls: V.lt gy, occ wh-v.lt gy, fxln-gran, v.chky, sli pyr, some arg, fr intran por, n/s.

Ls: Tn, vxln, sli foss, dns, intbd lt gn sh.

Ls: Tn, fr-vxln, dns, some silic, intbd gy fis sli pyr sh, tr carb mat & org rem, n.v.p.

Sh: Gy-gn & olv gn, fis, pyr, occ calc, foss (Brach)

Ls: Crm, tr v.lt gy, fxln, chky-sbchky, tr spr calc, n/s.

Sh: V.lt gy-gn, thin fis-biky, sli pyr, slty.

Ls: Lt gy, fxln, w/dk-sbchky, occ spr calc, tr frac, n.v.p.

Ls: Crm-lt gy, fr-medln, sbchky, tr v.lt gy op frs cht, sli in pt, intbd gn-gy thk fis calc pyr sh.

Ls: Lt gy, fxln-gran, some dk gy org rem, sli pyr, sbchky in pt, n/s.

Sh: Gy-gn & olv gn, fis-biky, occ v slty, sli pyr, some calc, intbd blk & dk gy-brn carb sh.

Ls: Crm, fxln-gran, tr org rem, sbchky, occ arg-shly.

Ls: Crm-v.lt gy, fxln-gran, sbchky, sli pyr, tr org rem & lt gy calc, gd intran por, n/s.

Sh: Blk, fis, carb.

Sh: Gy-gn rd-brn mar & lt gn, biky mott, some slty.

Ls: Crm-lt, fr-vxln, tr tn & lt gy op-trnsl cht, some arg, n.v.p.

Ls: V.lt gy, tr crm-lt gy, tr gran, v.lt gy & tn op-trnsl cht, some sbchky, n/s.

Sh: Gy-gn rd-brn blu-gn tr mar, fis, mott occ slty, intbd lt gy & crm calc stst mott w/dk-brn sh, wl cmt, n/s.

Ls: Wh, fxln-gran, sbchky, slty in pt, n/s.

NO SAMPLE

Sh: Gy & gy-gn tr yel, occ brn & rd-brn, fis, some mott, tr wh vfn lmy sd & v.lt gy fis Ls, pr pp por, v.sli odor, sli shw FO, lt sply stn.

Sh: Gy-gn rd-brn tr yel, fis, some lt gy & lt purp arg stst, cons wh-crm fxln sbchky Ls, n/s.

Ls: Crm-v.lt gy, fxln, tr gran, sbchky, occ slty, some spr calc, n.v.p.

Ls: Wh-crm, fxln, tr gran sli ool, some sbchky, tr slty, occ spr calc, n.v.p.

Ls: Crm, v.lt gy tr yel, fr-vxln, w/dk, occ arg, n.v.p.

Ls: Wh crm & lt gy, occ yel & pnk, fxln, sbchky, tr org rem, arg in pt, n.v.p.

Ls: Crm & lt yel, fxln, sbchky, occ arg, n.v.p.

Ls: Wh-crm, some yel & pnk, fr-vxln, smwt arg, n.v.p.

Ls: Wh & crm occ mott w/yel, fxln-gran, some sbchky, tr dol, pts arg, n.v.p.

Ls: Wh, fxln, sbchky & crm gran-suc dol, tr arg, n.v.p.

Ls: Crm & wh, fxln, sbchky, tr org rem, tr wh-gy trnsl cht, n.v.p.

Ls: Wh, fxln, sbchky, some crm gran-suc dol, n.v.p.

Sh: Gy-gn & lt gn, fis-biky, occ slty, sli pyr, some tn & lt gy vfn-frn wl cmt arg sd.

Ls: Wh, fxln-gran, sbchky, occ sdy, much intbd gy-gn & lt gn sli pyr sh.

Sh: Gy-gn-gr, tr lt gn, fis, sli calc, some crm fxln-gran sdy Ls, n.v.p, n/s.

Sh: Gy & dk gy, fis, some carb mat, intbd lt blu-gn sbwxy sli pyr sh.

Sh: Blm-gn & gy-gn, fis, sli pyr, tr sbwxy, tr med sbmrd frs uncons sd, n/s.

Dol: Crm-lt, suc, sli chky, tr pyr, fr intran por, n/s.

Dol: Crm tr tn, suc, sli chky, some arg, tr pyr, fr intran por, n/s.

Dol: Crm, fxln-suc, some sec xtal, fr-gd intran & vug por, n/s.

Dol: Lt gy & tn, tr pnk, fxln, tr medln, chky, tr wh op-trnsl ool cht, fr-gd intran & vug por, n/s.

Dol: Crm & v.lt gy, fxln, tr medln, sli chky, some tn & wh op-trnsl cht, gd intran por, n/s.

1:29 PM, 14 SEP 2011  
Start: 1 Ft. Drilling Time  
10 Ft. Samples

**STOTLER**  
2549 (-718)

**TARKIO**  
2598 (-767)

**TOPEKA**  
2754 (-923)

DST # 1 2766 - 2782  
30°-60°-30°-60°  
IF: Weak intermittent surf. blow  
FF: Few bubbles  
RECOVERY:  
1 Ft. Very Silty Oil Cut Watery Mud  
(2%Oil,48%Wtr,50%Mud)  
9 Ft. Muddy Water  
(Chlor: 7,500 ppm)  
5 Ft. Mud  
IHP: 1361 psi FHP: 1313 psi  
IFP: 13-19 psi ISIP: 1041 psi  
FFP: 20-25 psi FSIP: 1010 psi  
BHT: 92 deg. F.

Mud-Co mud check @ 2782'  
Vis: 51, Wt: 8.9, WL: 5.4  
Chlor: 1,400 ppm, LCM: 3#

**TOPEKA**  
2754 (-923)

DST # 1 2766 - 2782  
30°-60°-30°-60°  
IF: Weak intermittent surf. blow  
FF: Few bubbles  
RECOVERY:  
1 Ft. Very Silty Oil Cut Watery Mud  
(2%Oil,48%Wtr,50%Mud)  
9 Ft. Muddy Water  
(Chlor: 7,500 ppm)  
5 Ft. Mud  
IHP: 1361 psi FHP: 1313 psi  
IFP: 13-19 psi ISIP: 1041 psi  
FFP: 20-25 psi FSIP: 1010 psi  
BHT: 92 deg. F.

Mud-Co mud check @ 3097'  
Vis: 48, Wt: 9.3, WL: 6.4  
Chlor: 2,500 ppm, LCM: 2#

**HEEBNER SHALE**  
2988 (-1157)

**TORONTO**  
3007 (-1176)

**LANSING**  
3033 (-1202)

DST # 2 2980 - 3097  
30°-60°-30°-60°  
IF: V. weak surface blow.  
FF: V. weak surging surface blow  
RECOVERY:  
12 Ft. Mud, w/slight Oil sheen  
IHP: 1469 psi FHP: 1451 psi  
IFP: 23-30 psi ISIP: 1044 psi  
FFP: 35-42 psi FSIP: 1000 psi  
BHT: 92 deg. F.

Mud-Co mud check @ 3172'  
Vis: 46, Wt: 9.3, WL: 6.8  
Chlor: 3,000 ppm, LCM: 2#

DST # 3 3108 - 3172  
30°-60°-30°-60°  
IF: Very weak 1 1/4 inch blow  
FF: Very weak 1/2 inch blow  
RECOVERY:  
20 Ft. Mud  
IHP: 1530 psi FHP: 1501 psi  
IFP: 19-27 psi ISIP: 1177 psi  
FFP: 29-35 psi FSIP: 1154 psi  
BHT: 93 deg. F.

DST # 4 3170 - 3279  
30°-60°-30°-60°  
IF: V. weak blow, incr. to 1 1/4 inches  
FF: V. weak blow after 23 min.  
RECOVERY:  
30 Ft. Mud  
IHP: 1581 psi FHP: 1539 psi  
IFP: 22-33 psi ISIP: 1212 psi  
FFP: 35-50 psi FSIP: 1190 psi  
BHT: 93 deg. F.

**STARK SHALE**  
3251 (-1420)

Mud-Co mud check @ 3279'  
Vis: 47, Wt: 9.3, WL: 10.0  
Chlor: 4,000 ppm, LCM: 2#

**BASE/KANSAS CITY**  
3311 (-1480)

**VIOLA**  
3521 (-1690)

**STIMPSON**  
3667 (-1836)

Mud-Co mud check @ 3702'  
Vis: 53, Wt: 9.6, WL: 10.0  
Chlor: 3,200 ppm, LCM: 3#

**ARBuckle**  
3717 (-1886)

**TOTAL DEPTH**  
3770 (-1939)