PANGAEA
EXPLORATION & CONSULTING, LLC

Well-Site Geologists

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Pangaea Exploration & Consulting, LLC
1700 N. Waterfront Pkwy. Bldg. 300
Wichita, KS 67206

Software: HMG Strata Log
Horizontal Mudlog & Geosteering, Inc
PO Box 20658, Albuquerque, NM 87154
505-320-3432 www.horizontalmudlog.com

Operator

CMX., Inc.

Well Name

#1 Scrooge SWDW

Operator Address

1700 N. Waterfront Pkwy., Bldg. 300, Suite B
Wichita, KS, 67206

Well Information

Field: Stranathan
Region: Mid-Continent
Coordinates: lat 37.0081457 & lon -98.5665672

Location: 205' FWL & 150'FSL, Sec. 7-35S-11W
State: Barber County, KS
API Index: 15-007-23694-0000
Rig Operator: Dan D. Drilling, Rig #5

Ground Elevation(ft): 1373.0
KB Elevation(ft): 1390.0
Spud Date: 4/29/2011
Drilling Concluded: 5/13/2011
CMX., Inc. Geologist(s):
Leah Kasten & Douglas H. McGinness II

Rig Supervisor(s):
Raymond Tarron, Tres Mgmt.

Hole Data

12 1/4" Surface to 1011
8 3/4 " 1011 to 5570
6 1/8" 5570 to 6650 TD

Samples Collected and examined from 4960' to TD
Mud System: Halliburton-Baroid, chemical mud and LCM to 5570,
Drilled with Water Only from 5570 to TD
Lost Circ @ 6625'

Casing Data

Surface Csg:
9 5/8" 26 wt J55 set @ 1011' w/ 480 sx Class A common, 2% gel, 3% CaCl2

Production Csg:
7" 26 wt J55 set @ 5519' w/100 sx 65/35 pozmix and 100 sx of Class H

Legend - Scale 1:240 (1" = 20')

Lithology

- ▨ Anhydrite
- ▨ Bentonite
- ▨ Breccia
- ▨ Carbonaceous Shale
- ▨ Cement
- ▨ Chert
- ▨ Claystone
- ■ Coal
- ▨ Conglomerate
- ▨ Dolomite
- ▨ Fault or Fracture
- ▨ Glauconite
- ▨ Gypsum
- ▨ Limestone
- ▨ Marlstone
- ▨ Mudstone
- ▨ Salt
- ▨ Sandstone
- ▨ Shale
- ▨ Siltstone

Intervals

- Show
- Slide
- Rotate
- Core
- Recovered Core

Graph Curves

Graph #1
ROP (min/ft)
Total Gas (Units)

Log Images

- Bit Trip
- Midnight
- Gas Show
- ● Oil Show
- ◢ Casing Show
- AM Report
- PM Report
- Tight Connection
- Fracture
- Formation Tops
- Formation Members
- Pressure Test
- ▪ Carbonaceous
- Calcite
- K Kaolinite
- ✕ Survey
- P Pyrite
- F Fossil

Graph #1 | Sample % | Depths (ft) | Descriptions

Date	Depth	Daily Remarks
04/29/2011		MIRT
04/30/2011		Spud @ 9:00 am,
05/01/2011	1020	Set 9 5/8 "@ 1011
05/02/2011	1020	
05/03/2011	1930	
05/04/2011	2790	
05/05/2011	3420	bit trip@3444
05/06/2011	4440	
05/07/2011	5245	
05/08/2011	5570	7" @ 5519'
05/09/2011	5570	
05/10/2011	5570	
05/11/2011	6225	
05/12/2011	5877	
05/13/2011	6650	Drilled to 6625 and lost all returns, pump pit and frac tank fluid into well & TOOH to run 4" coated tubing and packer.

Formation Tops	Sample	Elog
Heebner	3844 (-2454)	3838 (-2448)
Kansas City	4388 (-2998)	4382 (-2991)
Stark Sh	4534 (-3144)	4531 (-3141)
Hushpuckney	4570 (-3180)	4565 (-3175)
B/KC	4619 (-3229)	4614 (-3224)
Marmaton	4638 (-3248)	4632 (-3242)
Cherokee Sh	4764 (-3374)	4760 (-3370)
Mississippian	4852 (-3462)	4847 (-3457)
Kinderhookian	5087 (-3597)	5082 (-3692)
Woodford Sh	5150 (-3760)	5145 (-3692)
Misner Sand	5181 (-3791)	5176 (-3786)
Maquoketa	5192 (-3803)	5189 (-3799)
Sylvan	5222 (-3832)	5218 (-3828)
Viola	5252 (-3862)	5247 (-3857)
Simpson Sh	5343 (-3953)	5337 (-3947)
Simpson Sd	5374 (-3984)	5370 (-3980)
Detrital Arbuckle	5515 (-4125)	NA
Solid Arbuckle	5554 (-4164)	NA
TD @ Casing	5570 (-4180)	5562 (-4172)
RTD	6650 (-5260)	

Survey Depth (ft)	Inclina-tion (deg)	Azimuth (deg)
1038	0.4	145.8
1163	0.2	275.0
1349	0.4	284.4
1473	0.4	245.9
1598	0.6	234.2
1755	0.8	214.9
1945	0.6	217.3
2135	0.3	189.5
2324	0.1	162.9
2515	0.2	50.5
2704	0.3	5.6
2894	0.7	3.9
3207	0.7	88.7
3523	0.8	89.7
3838	0.4	258.9
4155	0.3	145.5
4470	0.5	196.5
4783	0.2	146.5
5098	0.6	40.8

Chert, wht, frsh and tripolitic, SSFO, Sli odor, abund stn, spty and tr sat. G vug and micro vug por in trip chert. (described from remnants in 4960 sample)

Dolo, wht, fnxln, p-vis por, rare questionable lt stn, spty, NSFO (described from remnants in 4960' smpl)

20' Smples collected at 4960'

Dolo, med gry, fnxln, argillaceous, blky, p-vis por, NS

Sh, dk gy, grn, fissile, abund in smpl

Dolo, dk - med gy, fnxln, argillaceous, p vis por, cmpct
Sh, incr in volume
Chert, gy, mottled, frsh, shrp

Dolo, AA
Sh, AA
Chert, AA

Ls, Crm-lt gy, vfnxln, cmpct, p-vis por, blky, NS

Sh, dk gy, fissile, some hrd

Sh, AA

Sh, blk, carb
Sh, gy-dk.gy-dk brn

Lignite, v dk brn
Sh, blk-dk brn, rich organic

Sh, gy and Sh/Lignite aa,
Sd grns and sdy sh

Sd, qtz, highly fri clstrs, fngrn, sub-rd to rd, blk phosphate incl, gd intgrn por, SSFO, Sli odor when clstr brkn, lt evn stn in some pcs, gd fluor, gd cut, some tight, with xtal ovrgrwth, well cmted sd present also, scat lse sd grns

Dolo, lt gy, argillaceous, peppered w/ blk spks

Dolo-Ls, brn, silty, vfnxln, n-vis por, NS

Dolo-Ls, lt-gy, fnxln, sli argillaceous, silty, Scat chert, wht, frsh p-vis por NS

Ls, crm, mdxln to fnxln, chlky in part, blk inclusions, gen p-por, some isolated vug por, scat Chert, wht, frsh

Ls, tan, mottled, incr dolomitic, fnxln-microxln, hrd, blkyu, brittle, Chert, tan-gy, mottled

Ls, crm-lt tan, fnxln, scat chert, incr wht chlk

Sh, grn-blu, glauconitic,
Sd, sct lse qtz grns, rd to sub-rd, NSFO, no odor, No sho gas,
Sd grns imbedded in glauc sh
Sh, varicolor

Sd, porly sorted med-fn grn, v wel rd qtz., some lse grns in tray, few cln clusters, most with grn glauc. cmt.
Sh, grn, glauc, sli wxy
Scat chlky ls
Sh, vari color

Sd, qtz, clr, highly friable, med-fn grn, scat blk flky res stn, NSFO, no odor, no fluor, v wk slow cut in few pcs, abund lse sd grns

Sh, gy, gr
Scat lse sd grns

Sh, gy-gr, emerald gr glauc spks

Sd, clr, crystal, fngrn, angular, NS no cut or Fluor,
Sd, some poorly srtd, glauc spks, rd grns

Sh, vari-color, mostly gy,
Sd, lse grns, decr cln sd, some tight, dirty sd clusters

Dol, gy, sdy, shly, p-vis por,
Abund lse sd grns
Sh, vari color

Sh, gy, gr, , pyrite
Sd, dolomitic, dirty, fnxln, tightly cmted, some xtal overgrowth
Sd, abund lse sd grns

Dol, tan, sucrosic, fnxln, crystal, scat f-vug inxln por, NS, No cut or fluor,
Tr wht, chlky sh

Dol, tan, fnxln, sucro/xtaline, f inxln & vug por, calcite incl,
Ls, scat, vfnxln, chlky
Abund sd grns

Dol, crm-lt gy, vfn-fnxln, sucrosic
Dol, green, vfnxln, cmpct, scat
Ls, tr, crm-wht, chlky, vfnxln, scat

Dol, aa
Dol, tan - lt brn, fnxln, sucrosic
Ls, aa, scat

Dol, crm-lt tan, fn-mdxln, abund indv crystals,
Dol, tan, g-vug inxln por visible in few pcs, mstly broken up, few pcs with questionable edge stn, NSFO, No odor, very questionable light, slow cut
Ls, crm chlky, v tiny glauc spks, scat

Sh, dolomitic, dk gy - brn, sli silty
Dol, grn, vgnxln, cmpct, aa
Chert, frsh, wht, trace
Dol, crm-lt tan, fn-med xln, individ rhomb xtals

Dol, tan, fnxln, sucrosic, broken up

Dol, tan, fn-medxln, abund indiv rhomb xtals,
Chert, wht, frsnh, shrp, scat

Dol, wht, vfnxln, cmpct
Chert, wht, scat

Dol, tan-lt brn, sucro, fnxln

Abund indiv rhomb xtals, lt tan fn-med xln

Dol, lt tan-crm, abund indiv rhomb xtals, fn-medxln,
Dol, crm-wht, vfnxln, sucro
Chert, wht, scat

Dol, crm-wht, vfnxln, sucro
Dol, lt tan- crm, indiv loose mdxln xtals
Chert, wht-gy, frsh, opaq

Dol/Ls, wht, platy, vfn-microxln
Chert, wht, milky and translucent
Also, abund loose dolo med xln xtals

Dol, crm-lt gy, loose indiv med xln rhomb xtals,
Dol, grn, vfnxln, scat
Wht chlky Dolo/Ls, scat

Dol, tan, vfnxln, sucrosic, highly vitreous xtals, many fn-med xln indiv irreg & rhomb and sucro xtals,
Chert, rare, wht

Dol, lt tan-crm, vfnxln, sucro, abund indiv irregular & rhomb xtals, md-xln, Possibly g-inxln vug por
Sh, brn, dolomitic, silty, scat
Ls/Dol, wht, chlky, scat

Dol, dk tan, lt tan & crm, sucro, vfnxln, tr interxln por, abund indiv irreg, fnxln xtals
Dol/Ls, chlky, scat
Chert, wht - lt gr, rare

Dol, gy-tan, fnxln, vitreous appearance, sli tight
tr glauc spks in devitrified pces
Chert, wht, rare

Dol gy-brn-dk tan, vfnxln, vitreous, cmpct in pcs, (Por between clusters?) sucrosic appearance
Chert, gy, frsh, rare

Dol, tan, fnxln, sucro-vitreous, some unconsolidated xtals, highly vitreous
Chert, wht, gy-tan oolites, also, gy-tan, semitranslucent, mottled, abundant

Dol, wht, microxln, devitrified, glauc spks, platy
Dol, gr-gy vfnxln, shly
Chert, gy-tan, semi trans, abund
Dol, lt, tan- crm sucro, fnxln

Dol, tan-brn, fnxln, vfnxln to microxln, sucrosic, tightly compacted in some
Chert, gy, semi-trans, scat

Dol, crm-lt gy, vfnxln, gritty,
Chert, gy, frsh, abund
Dol, grn, glauc, tr
Dol, crm-lt gy, indiv rhombic xtals, mdxln, vitreous, some w/devitrified siliceous cmt on edges

Dol, lt tan, sucro, gritty, broken into sm pcs,
Chert, wht, opaq to semi translucent, frsh, scat to abund

Dol, crm-lt tan, abund indiv xtans, md and fnxln
Chert, wht-lt gy, frsh, opaq and semi translucent

Dol, lt tan, mdxln, rhombic, mstly indiv xtals, abund

Dol, crm-lt tan, vfnxln, grnish pyrite/glauc spks
Dol, wht-crm-vlt tan, vitreous, abun indiv xtals, md-cse xln
Chert, wht-gy, frsh, shrp, abund
Dol, grn, glauc, very scat, 1-2 pcs per field

Dol, wht-crm-lt tan, vitreous, mstly indiv rhomb xtals, md-cse xln, cpl pieces consolidated with g-vug por
Chert, wht-gy, frsh, shrp, opaq to semi trans
Dol/Sh, brn-or, very scat, 1 pc per field
Sh, gy, grn, gy, sli dolomitic, v scat 1-2 pcs per field

Calcite xtals, scat

Dol, wht, well formed rhombic xtals, medxln, mostly unconsolidated, some with calcareous cmt on edges
Chert, milky wht and semi-translucent, shrp abund
Ls, wht, chlky, scat

Dol, wth, sucro, vfnxln, vitreous, tight
Chert, wht, frsh
Dol, lt-tan, indiv rhomb xtals, mdxln

Chert, predominant in smpl, wht to gy, frsh, opaq to semi-trans,
Dol, wht, vfnxln, almost soft, chlky texture
Dol, tan-gy, mdxln, indiv xtals, abund

Dol, tan-brn, highly sucrosic, vfnxln, abund indiv irregular wxtals, wht siliceous cmt on surfaces
Chert, gy, decr

Dol, tan-brn, sucro, vfnxln, aa
Chert, transparent in wet smpl, gy
Dol, wht, sucro, fnxln

Dol, vlt tan, vfnxln, vitreous, some "fused" with overgrowth
Dol, crm-lt gy, rhomibic, mdxln, vitreous, abund unconsolidated rhomb xtals
Calcite crystals, well formed, abund
Chert, wht, rare

Dol, crm & tan, varied color on same pcs, vitreous, fnxln
Dol, aa, unconsolidated xtals, irreg and rhombic
Dol, wht, devitrivied, vfnxln, soft, almost chlky appearance
Chert, wht with tan oolites, rare

Dol, crm-wht, vfnxln, platy, gritty, breaks in flat plates, has tiny blk mineral spks, devitrified
Sh, dolomitic, gr, gy, dk gy, maroon, scat
Chert, gy, frsh, scat

Chert, carmel brn - dk gy, brittle, opaq, smooth, dominant in smpl
Dol, aa
Dolo, crm, sli sucro, abund irreg and rhomb xtals, vitreous

Dol, lt tan, rhombic, cmted with wht, siliceous cmt, few pcs f-g vug por, mstly xtals, edges w/ cmt
Chert, wht, frsh and devitrified

Dol, aa, crm, wht, mstly indiv xtals
Dol, grn, glauc, vfnxln, scat
Chertr, wht-lt gy, rare

Dol, wht-crm, mostly unconsolidated xtals, rhomb and irreg, mdxln
Dol, grn, glauc, tr

Chert, wht, shrp, brittle
Dol, vfn-microxln, devitrified
Dol, mdxln, individ xtals, aa

Dol, wht-crm, mdxln, rhombic, mstly indiv xtals, some vitreous
Calcite xtals, irredescent, rhombic, abund
Qtz overgrowth "xtals", clr, highly vitreous, conchoidla frac, looks like broken glass, abund
Chert, wht, frsh, scat

Hematite inclu, rare

Dol, wht-crm, mdxln, rhombic, mstly indiv xtals
Chert, wht, frsh
Chert, wht, defitrified, fairly soft,
Dol, wht, cmpct, platy, mdxln, some sli devitrified, on edges
Metallic, blue irredescent flks, scat, 3-4 per field, causes Fe-oxide staining in dry smpl, cpl pcs have dendritic shape
Dol, grn, glauc, vfnxln

Dol, wht-lt gy, mdxln, mstly indiv rhombic xtals
Dol, lt gy, sucro, some platy, brittle
Chert, wht, frsh, opaq, and some devitrified, scat

Dol, lt gy, sucro, vfnxln-microxln, platy, abund wht, siliceous cmt around xtals
Dol, crm, rhombic xtals, mdxln, vitreous
Chert, wht, frsh and devitrified
Calcite xtals and qtz overgrowth scat

aa

Dol, gy, sucrosic, highly vitreous,
Dol, gy-crm, rhomb, indiv xtals
Calcite xtals aa, abund
Qtz, overgrowth, rare
Chert, wth, frsh w/ dull texture, abund

Dol, med gy, to crm, vfnxln-microxln, sucrosic, pv por, tr devitrified
Dol, crm, mdxln, rhomb xtals, unconsolidated in smpl, vitreous and non-vitreous,

Dol, aa, incr devitrified dol
Chert, aa
Dol, grn, glauc, vfnxln, scat

Dol, med gy, md-vfnxln, sucrosic, cmpct, vitreous
Dol, crm-lt gy, abund indiv rhomb xtals,
Chert, wht, frsh, some devitrified, possibly matrix?

Dol, wht, almost transparent in wet smpl, v sucrosic, highly vitreous
Chert, wht, milky to translucent, v shrp, frsh, xtalline in appearance
Dol, indiv rhombic xtals, aa

Dol, crm, abund rhomb xtals, unconsolidated

Dol, crm-lt gy, vfnxln, cmpct, platy,
Dol, tan-lt brn, sucro, fnxln, scat
Dol, crm-wht, rhomb xtals, abund
Chert, wht, aa

Dol, wht, translucent in wet smplt, highly vitreous, sucro xtals, rhombic, unconsolidated
Calcite, cse, well developed xtals
Qtz, clr overgrowth xtals, extremely sparkly and vitreous
Chert, wht, fresh, milky, and devitrified, possibly matrix,

Dolo, aa, w tiny spks emeralg grn glauc in matrix of xtals, vfnxln, rare

Dol, crm-lt tan, fnxln, rhombic, gd interxln por in f pcs
Dol, med-dk gy, tightly consolidated rhombic xtals, med-cse xln wht siliceous matrix
Dol, lt gy, Vfnxln, sucrosic platy
Dol, crm-lt tan, rhombic, glauc in matrix, rare
Chert, gy, rare

Lost Circ @ 6625' No Returns