

# GEOLOGIST'S REPORT

## DRILLING TIME AND SAMPLE LOG

**RITCHIE EXPLORATION, INC.**

**WELL: CKG-SCHILTZ #1**

**LOC.: 1120' FNL & 200' FEL**  
**SER. 8-9-30W**  
**SHERIDAN COUNTY, KANSAS**  
**API: 15-179-21299-00-00**

### ELEVATION

**KB: 2951**  
**GL: 2946**  
**LOG MEASURED**  
**FROM: KB**

### SURFACE CASING

**8 5/8" Set @306' W/185 SX**  
**Comm..3%CC / 2% Gel.**

### PRODUCTION CASING

**5 1/2" 15.5# Set @4641' W/200 SX**  
**Insert@4619'**  
**Port Collar set @2531'**

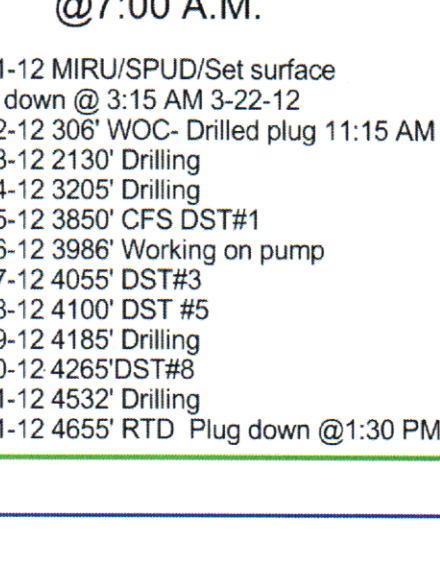
### WELL LOG SURVEYS

DIL/CDL

**DRILLING CONTR.: WW RIG #6**  
**SPUD: 03-21-12 COMP: 04-01-12**  
**MUD UP: 3300' TYPE MUD: CHEM.**  
**DRILL TIME: 3550 to' RTD**  
**RTD: 4655' LTD:4659'**  
**SAMPLES SAVED: 3550'-RTD**  
**GEOLOGIST: ROBERT J. PETERSEN**

### ELECTRIC LOG TOPS

FORMATION	DEPTH	DATUM	POS.
Stone Corral	2565	386	-3
Base Stone Corral	2597	354	-2
Topeka	3761	810	-2
Heebner	3976	-1025	-2
Toronto	3999	-1048	-2
Lansing	4015	-1064	-2
Muncie Creek	4134	-1183	-2
Stark	4213	-1262	-2
Huspsuckney	4246	-1295	-4
BKC	4268	-1317	-2
Marmaton	4295	-1344	NA
Altamont	4346	-1395	NA
Pawnee	4388	-1437	NA
Ft Scott	4465	-1514	NA
Cherokee SH	4494	-1543	NA
Miss	4569	-1618	NA



### REFERENCE WELL:

Ritchie Exploration, Inc  
 CKG #1  
 1151' FNL & 1428' FEL  
 9-9-30W  
 2953KB

### REMARKS AND RECOMMENDATIONS

It is recommended that production casing be run to further test this well for commercial production.

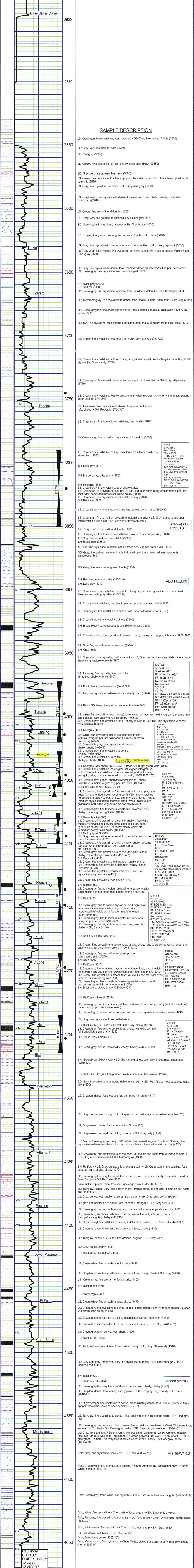
Respectfully submitted,

*Robert J. Petersen*  
 Robert J. Petersen

### DAILY REPORT

@7:00 A.M.

03-21-12 MIRU/SPUD/Set surface plug down @ 3:15 AM 3-22-12  
 03-22-12 306' WOC- Drilled plug 11:15 AM  
 03-23-12 2130' Drilling  
 03-24-12 3205' Drilling  
 03-25-12 3850' CFS DST#1  
 03-26-12 3986' Working on pump  
 03-27-12 4055' DST#3  
 03-28-12 4100' DST#5  
 03-29-12 4185' Drilling  
 03-30-12 4265' DST#6  
 03-31-12 4532' Drilling  
 04-01-12 4655' RTD Plug down @1:30 PM



### SAMPLE DESCRIPTION

LS. Cream/tan, fine crystalline, fossil-mottled + SD. Tan, fine grained, friable (3560)

SS. Gray, very fine grained, hard (3570)

SH. Red/gray (3580)

LS. Cream. Fine crystalline, silty, cherty, trace stain (black) (3580)

SD. Gray, very fine grained, hard, silty (3590)

LS. Cream, fine crystalline, foss, trace ppt por, black stain, vssfo + LS. Gray, fine crystalline, sil dolomitic (3590)

LS. Gray, fine crystalline, dolomitic + SH. Gray/dark gray (3600)

LS. Gray/cream, fine crystalline to dense, fossiliferous in part, cherty, cherty, trace stain (black-tarry)(3610)

LS. Cream, fine crystalline, dolomitic (3620)

SD. Gray, very fine grained, micaceous + SH. Dark gray (3620)

SD. Gray/cream, fine grained, micaceous + SH. Gray/brown (3630)

SD. Lt gray, fine grained, subangular, micaceous, friable + SH. Black (3640)

LS. Gray, fine crystalline to dense, foss, subchaly, mottled + SH. Dark gray/black (3650)

LS. Gray w/tan fossil mottle, fine crystalline, silty, cherty, subchaly, trace dead stain/flakes + SH. Black/gray (3660)

LS. Gray, fine crystalline to dense, fossil mottled w/trace ppt intercrystalline por., tarry stain + LS. Cream/gray, fine crystalline, foss, dolomitic-part (3670)

SH. Black/gray (3670)

SH. Red/gray (3680)

LS. Cream/gray, fine crystalline to dense, foss, chaly, sil dolomitic + SH. Black/gray (3680)

LS. Tan/cream/gray, fine crystalline to dense, foss, chaly, sil dolo, trace stain + SH. Gray (3690)

LS. Cream/gray/tan, fine crystalline to dense, foss, dolomitic, mottled, trace stain + SH. Gray, sandy (3700)

LS. Tan, fine crystalline, fossiliferous-granular in part, chaly, sil mealy, trace black stain (3710)

LS. Cream, fine crystalline, foss-granular-in part, very chaly-soft (3720)

LS. Cream, fine crystalline, silty, chaly, subgranular in part, trace intergran por, tarry black stain + SH. Gray, sandy (3740)

LS. Cream/gray, fine crystalline to dense, trace ppt por, trace stain + SH. Gray, silty-sandy (3750)

LS. Cream, fine crystalline, fossiliferous-granular w/fair intergran por, cherty, silo, blocky, patchy black stain on dry (3760)

LS. Tan/cream, fine crystalline to dense, foss, poor moldic por, silo, chaly + SH. Red/gray (3764/30')

LS. Cream/gray, fine to medium crystalline, foss, chaly (3780)

LS. Cream/gray, fine to medium crystalline, silty, dolo (3790)

LS. Cream, fine crystalline, chaly, dolo, trace foss, trace moldic por, stain-black (3800)

SH. Dark gray (3810)

SH. Maroon/gray, silty, sandy (3820)

SH. Red/gray (3830)

LS. Cream/gray, fine crystalline, dolo, chaly (3820)

LS. Cream/tan, fine crystalline, oil-foss-in part, granular w/fair intergranular/moldic por, silo, faint odor, heavy dark brown saturation on dry (3830)

LS. Cream/tan, fine crystalline, silty, dolo, chaly (3840)

SH. Red/gray (3850)

LS. Cream/lt gray, fine to medium crystalline, silty, dolo (3850/30')

LS. Cream tan, fine to medium crystalline, dolomitic, chaly + LS. Gray, dense, trace poor intercrystalline por, stain + SH. Gray/dark gray (3850/60')

LS. Gray, medium crystalline, dolomitic (3860)

LS. Cream/gray, fine to medium crystalline, dolo, sil foss, cherty, chaly (3870)

LS. Gray, fine crystalline, foss, sil dolo (3880)

SH. Black, carb (3880)

LS. Tan, fine crystalline to dense, chaly, trace poor vug por, trace stain (3890)

SD. Gray, fine grained, angular, friable to well cem, trace reworked foss fragments, calcareous (3890)

SD. Gray, fine to edum, angular friable (3900)

SH. Red-hard + maroon, silty (3900, silty)

SH. Dark gray (3910)

LS. Cream, medium crystalline, foss, dolo, chaly, w/por intercrystalline por, trace dead flaky-larry oil, light gray, stain (3910/30')

LS. Cream, fine crystalline, oil, foss in part, sil dolo, trace stain (black) (3220)

LS. Cream/gray, fine crystalline to dense, foss, oil-chaly-soft in part (3930)

LS. Cream/lt gray, fine crystalline silty (3940)

SH. Black, blocky-carbonaceous (trace 3940/in crease 3950)

LS. Cream/gray/tan, fine crystalline to dense, chaly, trace poor ppt por, light stain (3950-3960)

LS. Gray, fine crystalline to dense, foss (3960)

SH. Gray (3960)

LS. Cream/tan, fine crystalline, oil/foss, chaly + LS. Gray, dense, foss, very chaly, trace black stain along fracture regrowth (3970)

DST#1  
 3972-4020'  
 30-45-60'  
 IF: BOB in 4 1/2 min  
 FF: BOB in 4 1/2 min  
 FC: BOB in 4 1/2 min  
 No return blows  
 Recovered:  
 50' GIP  
 40' FOD  
 60' MCO 70% oil/30% mud  
 60' MCO 60% oil/40% mud  
 SIP: 1227-1213#  
 HP: 23-60/84-81#  
 HP: 1940-1890#  
 BHT: 117' F  
 Oil Grav: 41'

DST#2  
 3972-4020'  
 30-45-60'  
 IF: BOB in 4 1/2 min  
 FF: BOB in 4 1/2 min  
 FC: BOB in 4 1/2 min  
 No return blows  
 Recovered:  
 50' GIP  
 40' FOD  
 60' MCO 70% oil/30% mud  
 60' MCO 60% oil/40% mud  
 SIP: 1227-1213#  
 HP: 23-60/84-81#  
 HP: 1940-1890#  
 BHT: 117' F  
 Oil Grav: 41'

DST#3  
 4027-4058'  
 30-45-30-60'  
 IF: BOB in 20 min  
 FF: BOB in 4 1/2 min  
 FC: BOB in 15 min  
 No return blows  
 Recovered:  
 88' GCO 40% oil/60% mud  
 12' OCM 40% oil/60% mud  
 12' OCM 40% oil/60% mud  
 118' MW 95% W/5%M  
 118' MW 95% W/5%M  
 118' MW 95% W/5%M  
 118' MW 95% W/5%M  
 BHT: 123' F  
 Oil Grav: 41'

DST#4  
 4053-4063'  
 30-45-45-60'  
 IF: BOB in 19 min  
 FC: 2'  
 Recovered:  
 310' GIP  
 142' FOD  
 60' OCM 50% oil/50% mud  
 SIP: 1064-992#  
 HP: 1988-1960#  
 BHT: 123' F  
 Oil Grav: 35'

DST#5  
 4053-4063'  
 30-45-45-60'  
 IF: BOB in 19 min  
 FC: 2'  
 Recovered:  
 310' GIP  
 142' FOD  
 60' OCM 50% oil/50% mud  
 SIP: 1064-992#  
 HP: 1988-1960#  
 BHT: 123' F  
 Oil Grav: 35'

DST#6  
 4053-4063'  
 30-45-45-60'  
 IF: BOB in 19 min  
 FC: 2'  
 Recovered:  
 310' GIP  
 142' FOD  
 60' OCM 50% oil/50% mud  
 SIP: 1064-992#  
 HP: 1988-1960#  
 BHT: 123' F  
 Oil Grav: 35'

DST#7  
 4186-4210'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#8  
 4255-4265'  
 30-45-60'  
 IF: 14" steady  
 FF: 14" steady  
 FC: none  
 Recovered: 5' OSM (oil spots 100% mud)  
 SIP: 38-32#  
 HP: 20-25/26-39#  
 HP: 2066-2072#  
 BHT: 118' F

DST#9  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#10  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#11  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#12  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#13  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#14  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#15  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#16  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#17  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#18  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#19  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#20  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#21  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#22  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#23  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#24  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#25  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#26  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#27  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#28  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#29  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#30  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#31  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#32  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#33  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#34  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#35  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#36  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#37  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#38  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#39  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#40  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#41  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#42  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#43  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#44  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60% mud)  
 SIP: 54-38#  
 HP: 18-19-32#  
 HP: 2077-2009#  
 BHT: 119' F

DST#45  
 4255-4265'  
 30-45-60'  
 IF: BOB in 13 min  
 FF: BOB in 13 min  
 FC: BOB in 13 min  
 No return blows  
 Recovered:  
 15' OCM (40%oil/60