

Wellsight Systems

Scale 1:240 (5"=100') Imperial Measured Depth Log

Well Name: #3 Phillips 19D
Location: sec 19 - twp 135 - rge 31W GOVE COUNTY
License Number: 212 060521374
Spud Date: 21 FEB 2012 Drilling Completed: 04 MAR 2012
Region: KANSAS

Bottom Hole Coordinates: 20° north & 90°W east of S2 - S2 - SE
EVIATION SURVEYS: 0.5 degree @ 217', 1 degree @ 205', 1 degree @ 3,424, 1.5 degrees @ 3,965, 1 degree @ 4,660
Ground Elevation (ft): 2,901 K.B. Elevation (ft): 2,911
Logged Interval (ft): 3,500 Total Depth (ft): 4,660

Formation: WABANWEE TO MISSISSIPPIAN
WABANWEE - gasplace @ 3,361
Printed by Wellsight Log View from Wellsight Systems 1-800-447-1534 www.Wellsight.com

OPERATOR

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GEOLOGIST

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COMMENTS

CONTRACTOR: Murfin Drilling, rig #14:
MUD: Mud-Co (Reid Atkins)
DRILL STEM TESTS: Superior Testers Enterprises (Ken Swinney)
ELECTRIC LOGS: Super Services (Jeff Luebbers)
SURFACE CASING: 8.625" to D14 (CNL/COD)
PRODUCTION CASING: 5.5" to MISSISSIPPIAN (arcone 4,648)
drilled 214 - 3,424 w PDC bit, drilled 3,424 - 4,660 w tricone

DAILY PENETRATION
DATE DEPTH 0700 hours
21 FEB 2012 2,880
22 FEB 2,880
23 FEB 2,880
24 FEB 2,880
25 FEB 2,880
26 FEB 2,880
27 FEB 2,880
01 MAR 2,880
02 MAR 2,880
03 MAR 2,880
04 MAR 2,880
05 MAR 2,880
06 MAR 4,660 TD

DRILL STEM TEST #1
3,961 - 3,985 30 - 30 - 30 LKC C zone
IFP: weak surface blow built to 0.25" / 30 min
ISIP: no blowback
FFP: no blow
FSIP: blowback built to BOB / 27 min
REC: 5' DM w/ 5' oil in total
5' total fluid
FP: 45 - 51# / 53 - 54#
HP: 1,924 - 1,933#
BHT: 106 degrees F
COMMENT: shut-in curves suggest poor permeability

DRILL STEM TEST #2
4,086 - 4,118 30 - 45 - 60 LKC H zone
IFP: good blow built to BOB / 25 min
ISIP: blowback built to 0.5" / 45 min
FFP: fair blow built to 9" / 45 min
FSIP: blowback built to BOB / 27 min
REC: 5' CGO (20% G, 80% O)
360' OCGWM (5% O, 55% M, 40% W)
365' total fluid
GRAVITY: insufficient recovery for accurate determination
Chlorides: 41,000 ppm recovery (3,000 ppm system)
SIP: 56 - 172# / 177 - 221#
HP: 1,982 - 1,948#
BHT: 113 degrees F

DRILL STEM TEST #3
4,120 - 4,144 40 - 45 - 30 LKC I zone
IFP: strong blow built to 10 inches / 45 min
ISIP: blowback built to 10 inches / 45 min
FFP: strong blow built to BOB / 27 min
REC: 810' CGO (20% G, 80% O)
540' OCGWM (15% O, 30% M, 55% W)
270' MW (15% M, 85% W)
1,820' total fluid
GRAVITY: 39 degrees API
Rw: 0.34 ohms @ 45 degrees F
Chlorides: 47,000 ppm recovery (3,500 ppm system)
SIP: 125 - 511# / 518 - 604#
HP: 1,992 - 1,962#
BHT: 114 degrees F
COMMENT: shut-in curve indicates very good permeability

DRILL STEM TEST #4
4,144 - 4,168 30 - 45 - 60 LKC J zone
IFP: fair blow built to 8" / 30 min
ISIP: no blowback
FFP: fair blow built to 7" / 45 min
FSIP: surface blowback
REC: 10' CO (100% O)
195' OCGWM (5% O, 70% M, 25% W)
210' total fluid
Chlorides: 40,000 ppm recovery (3,500 ppm system)
GRAVITY: insufficient sample for accurate determination
Chlorides: 89# / 102 - 143#
SIP: 773 - 765#
HP: 1,977 - 1,959#
BHT: 111 degrees F
COMMENT: shut-in curve indicates good permeability

DRILL STEM TEST #5
4,168 - 4,204 30 - 45 - 30 - 60 LKC K zone
COMMENT: rig on stand-by due to high winds, circulate for five hours (in addition to cfb) before tripping out for test.
IFP: strong blow built to BOB / 3 min. GTS / 7 min
ISIP: blowback built to 10" / 30 min
FFP: strong blow built to BOB / 2 min: gas would not burn.
gas gauged: 0.91 MCFGPD / 10 min
1.5 MCFGPD / 27 min
1.7 MCFGPD / 25 min
FSIP: blowback built to BOB / 44 min
REC: 585' CGO (20% G, 80% O)
540' OCGWM (15% G, 10% O, 30% M, 45% W)
360' OCGWM (5% O, 10% M, 85% W)
1,465' total fluid
GRAVITY: 38 degrees API
Chlorides: 42,000 ppm recovery (3,000 ppm system)
Rw: 0.39 ohms @ 46 degrees F
SIP: 1,024 - 1,068# / 1,074 - 1,179#
HP: 1,914 - 1,962#
BHT: 106 - 1,951#
COMMENT: shut-in curve indicates very good permeability

DRILL STEM TEST #6
4,228 - 4,270 30 - 45 - 60 LKC L zone & upper MARMATON
IFP: good blow built to BOB / 7 min
ISIP: blowback built to 8" / 45 min
FFP: good blow built to BOB / 9 min. GTS / 42 min.
FSIP: blowback built to BOB / 27 min
REC: 270' MCGO (30% G, 55% O, 15% M)
170' O&GCMW (15% G, 15% O, 35% M, 35% W)
180' OCGWM (10% G, 25% M, 65% W)
720' total fluid
GRAVITY: accurate analysis not possible due to mud cut
Chlorides: 38,000 ppm recovery (3,400 ppm system)
Rw: accurate determination not possible.
SIP: 89# / 102 - 135#
SIP: 1,232 - 1,189#
HP: 2,032 - 2,023#
BHT: 117 degrees F
COMMENT: shut-in curves indicate very good permeability

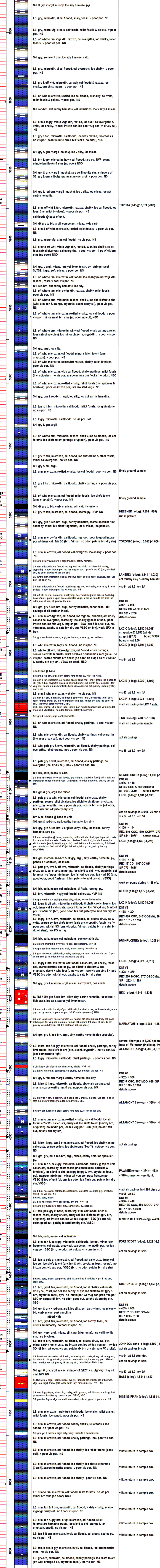
DRILL STEM TEST #7
4,302 - 4,350 30 - 45 - 45 - 60 ALTAMONT B & C zones
IFP: good blow built to BOB / 18 min
ISIP: blowback built to BOB / 17 min
FFP: good blow built to BOB / 17 min
REC: 5' CGO (5% G, 95% O)
450' MGO (30% G, 40% O, 30% M)
625' GIIP (100% G)
455' total fluid
GRAVITY: too much mud for accurate determination
FP: 57 - 141# / 155 - 228#
SIP: 1,178 - 1,136#
HP: 2,008 - 2,076#
BHT: 113 degrees F
COMMENT: shut-in curve indicates very good permeability

DRILL STEM TEST #8
4,360 - 4,448 30 - 45 - 30 - 60 PAWNEE - MYRICK STATION - FORT SCOTT
IFP: strong blow to BOB / 2.5 min
ISIP: blowback built to BOB / 9 min
FFP: good blow to BOB / 7 min
FSIP: blowback to BOB / 18 min
REC: 195' CGO (35% G, 65% O)
450' MCGO (20% G, 60% O, 20% M)
270' oily gassy (25% G, 25% O, 50% M)
975' GIIP (100% G)
915' total fluid
GRAVITY: 32 degrees API
FP: 134 - 340# / 364 - 416#
SIP: 1,152 - 1,098#
HP: 2,044 - 2,188#
BHT: 115 degrees F
COMMENT: shut-in curves indicate fair to good permeability and multiple pressure sources.

DRILL STEM TEST #9
4,453 - 4,505 30 - 45 - 45 - 60 upper CEMOS LIME and upper JOHNSON zone
IFP: fair blow built to 7" / 30 min
ISIP: si surface blowback
FFP: fair blow built to 6.5" / 45 min
REC: 10' CO (100% O)
260' OCGWM (5% O, 55% M, 40% W)
270' total fluid
GRAVITY: accurate determination not possible
Chlorides: 32,000 ppm recovery (3,400 ppm system)
FP: 63 - 112# / 117 - 166#
SIP: 1,050 - 910#
BHT: 2,173 - 2,157#
COMMENT: shut-in curves indicate poor - fair permeability with two pressure sources, one of which depletes within 5 min

ROCK TYPES
Coal, Shlt, Bnt, Dngl, Meta, Shtgy, Shst, Dol, Salt, Silt, Cht, Gyp, Sand, Shale, Sil, Tll, Clyst

OTHER SYMBOLS
Dead, Gas, INTERVAL, EVENT, Conn, RR, Sidelwall, Spotted, Quces



Ritchie Exploration, Inc.
360' FSL & 1,230' FEL
sec 19 - twp 135 - rge 31W