

WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST



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

Well Name: Church & Shaffer #1
Location: SW SW SE NE Sec. 25-20S-29W
Licence Number: API: 15-101-22379
Spud Date: June 11, 2012
Surface Coordinates: 2500' FNL, 1200' FEL

Region: Lane Co., KS
Drilling Completed: June 23, 2012

Bottom Hole Vertical
Coordinates:
Ground Elevation (ft): 2834' K.B. Elevation (ft): 2846'
Logged Interval (ft): 3500' To: RTD Total Depth (ft): 4800'
Formation: Mississippi
Type of Drilling Fluid: Chemical Premix (Displaced)

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR:

Company: CARMEN SCHMITT, INC.
Address: P.O. Box 47
Great Bend, KS 67530

DRILLING CONTRACTOR:

Southwind Drilling, LLC, Rig #70

DP 16.6#, 4.5"; DC: 6.25" x 2.25" x 541.08'; Kelly: 41.35'; Bit: 7-7/8", Smith F12 to 4022', Reed S52 to RTD, jets 14-14-14; Kelly bushing 12' above ground level. Carl Jessep (tool pusher).

SURFACE CASING:

8-5/8" casing at 222'

CIRCULATION SYSTEM:

BH-800 II, triplex pump, 8.5 x 6, 120 spm, chemical, premix, steel pits, shale shaker (degrades sample profile); displaced about 3300; Mud- Co/Service Mud, Inc.

DRILL STEM TEST #1:

Toronto : Interval: 3996-4022 (26'): Blow: weak incr 5" IFP, no RB, weak incr 2" FFP, no RB; Time: 15-30-45-60; Recovery: 120' GIP, 190' TF; 70' OCM (15%O, 85%M), 60' GWCO (10%G, 40%W, 50%O), 60' OCW (40%O, 60%W); Pressures: HP: 1989-1898, SIP: 1040-1041; FP: 21-50, 213-276; suspect plugging action during FFP; BHT: 120 F; dual packers, no DC, jars, joints; Trilobite Testing, Inc., Cole Archibald.

DRILL STEM TEST #2

Lansing "F": Interval: 4123-4140 (17'); Blow: weak incr 5" IFP, no RB, weak incr 5" FFP, no RB; Times: 15-30-45-60; Recovery: 250' TF: 10' CO (100%O, 33 Grav), 60' OWCM (5%O, 10%W, 85%M), 180' OMCW (10%O, 15%M, 75%W, Rw 0.142 at 74 F, chlorides 75k); Pressures: HP: 1995-1944, SIP: 1044-1027, FP: 19-44, 45-100; BHT: 125 F; dual packers, no DC, jars, joints; Trilobite Testing, Inc., Cole Archibald.

DRILL STEM TEST #3:

Kansas City "I": Interval: 4253-4277 (24'): tool slid 3-4' to bottom; Blow: weak incr 2" IFP, no RB, weak incr 5" FFP; no RB; Times: 15-30-45-60; Recovery: 65' MCO (35%M, 65%O); Pressures: HP: 2053-2041, SIP: 1131-1085; FP: 19-25, 27-41; BHT: 123 F; dual packers, no DC, jars, joints; Trilobite Testing, Inc., Chuck Smith.

DRILL STEM TEST #4:

Kans. City "J": 4281-4300 (19'): Blow: weak incr 8" IFP, no RB, BOB 28 min FFP, no RB; Times: 15-30-30-60; Recovery: 286' TF: 186' MW (50%M, 50%W), 100' MW w/sli show gas (20%M, 80%W, Rw 0.150 at 95 F, chlorides 35k); Pressures: HP: 2069-2062, SIP: 1172-1172, FP: 21-65, 68-1172; BHT: 128 F; dual packers, no DC, jars, joints; Trilobite Testing, Inc., Chuck Smith.

DRILL STEM TEST #5:

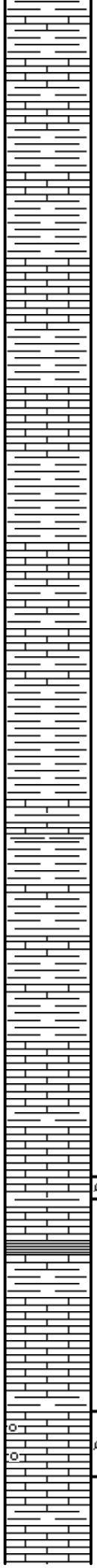
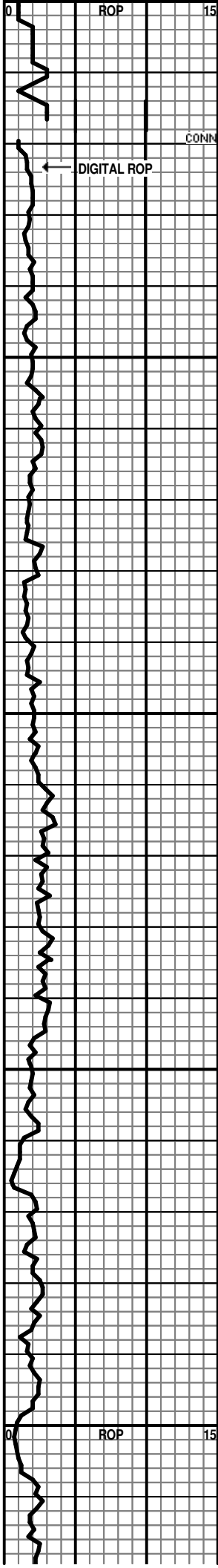
Kans. City Middle Creek & L-zone: Interval: 4361-4377 (16'): Blow: no blow IFP, flush at 2nd open no help; Times: 15-30-11-TOH; Recovery: 1' mud; Pressures: HP: 2133-2106; SIP: 18-N/A; FP: 15-17, 16-18; BHT: 118 F; dual packers, no DC, jars, joints; Trilobite Testing, Inc., Chuck Smith.

DRILL STEM TEST #6:

Pleasanton thru Marmaton: 4403-4495 (92'); Blow: weak incr 6" IFP, no RB, BOB 29 min FFP, weak RB died 5 min; Times: 15-30-30-60; Recovery: 90' weak GIP, 90' OCM (30%O, 70%M); Pressure: HP: 2127-2170; SIP: 967-980; FP: 21-32, 42-53; BHT: 121 F; dual packers, no DC, jars, joints; Trilobite Testing, Inc., Chuck Smith.

DRILL STEM TEST #7:

Lower Marmaton thru Ft. Scott: Interval: 4506-4595 (89'); Blow: weak 1/2" IFP, no RB, no blow FFP; Times: 15-30-10-TOH; Recovery: 10' OSM (100%M); Pressures: HP: 2225-2191; SIP: 522-N/A; FP: 17-19, 19-19; BHT: 118 F; dual packers, no DC, jars, joints; Trilobite Testing, Inc., Chuck Smith.



36
3650
3700
3750
3800

dense; no visible porosity; N.S.

LS: lt-md grayish brown, minor off-white; vf-xtal; dense; trace chert; no visible porosity; N.S.

LS: lt-md grayish brown w/few dk gray spots; vf-xtal; sli argill; mostly dense; no visible porosity; N.S.

LS: lt-grayish brown, off-white; mic-vf xtal; chalky in part; no visible porosity; N.S.

Shale: gray, greenish gray;

LS: lt-md grayish brown; vf-xtal; dense; no visible porosity; N.S.

3700 LS: lt-md grayish brown; vf-xtal; fos in part; shaley; no visible porosity; N.S.

LS: lt-brown; vf-xtal; dense; no visible porosity; N.S.

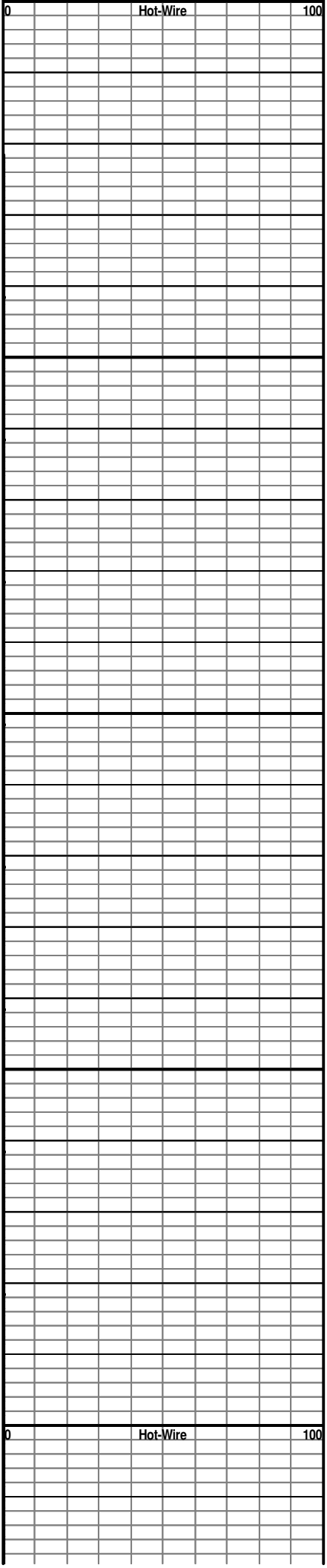
LS: as above.

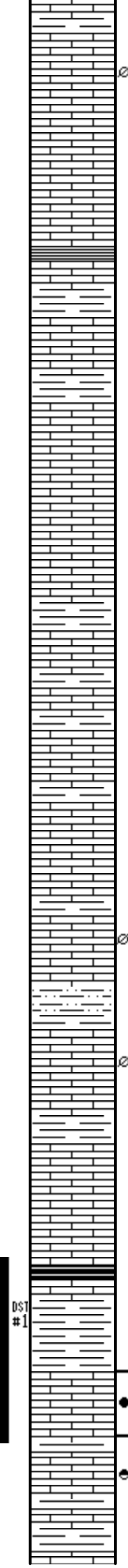
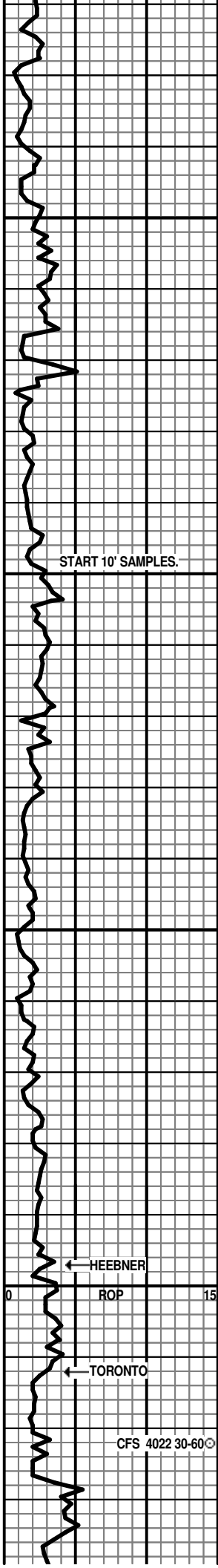
3750 LS: lt-brown, lt-md gray; vf-xtal; dense; sli fos; no visible porosity; N.S.

LS: lt-md brown; vf-xtal; rough textured; pos fair vug porosity; N.S.

LS: lt brown, lt gray; vf-xtal; dense to sli chalky; no visible porosity; N.S.

3800 LS: lt-brown, lt gray & brown mottled; vf-xtal; finely oolitic in part; tight int oolitic porosity; N.S.





LS: mostly lt brown; mic-vf xtal; chalky in part; poor vug porosity; N.S.

3850
 LS: grayish-brown, marbled off-white; mic-vf xtal; argill & chalky; no visible porosity; N.S.

LS: lt-brown, off-white; mic-vf xtal; poor vug porosity; N.S.

3900
 LS: lt-brown, lt grayish brown mixed; vf-xtal; chalky in part, trace white opa q chert; no visible porosity; N.S.

LS: as above.

LS: lt-md grayish brown; mic-vf xtal; argill & earthy in part; no visible porosity; N.S.

LS: lt-brown, lt-md grayish brown; mic-vf xtal; chalky in part; tight vug porosity at best; N.S.

3950
 LS: lt-md brown, grayish-brown; vf-xtal; mostly dense; some fine vug porosity; N.S.

LS: lt-md grayish brown; vf-xtal; fine vug porosity in part; N.S.

LS: lt-md grayish brown; vf-xtal; dull; mostly dense; no visible porosity; N.S.

4000
HEEBNER 3997 (-1151)
 Shale: black; carbon; trc 4010, sli incr 4020.
 LS: dense;
 Shale: gray to greenish-gray; trace siltstone.

TORONTO 4012 (-1166)
 LS: lt grayish-brown; vf-xtal; sli chalky; few chips fine vug porosity w/sli show oil & faint evasive odor; dull yel fluor; 4022-60m.

LS: lt-grayish brown; vf-xtal; 1 piece each 4040, 4050: fine vug por w/speckled brn stain, no show oil, looks washed out, prob float ?

LS: lt brown; vf-xtal; dense; no visible por; N.S.

3840 SAMPLE WAS MISSED.

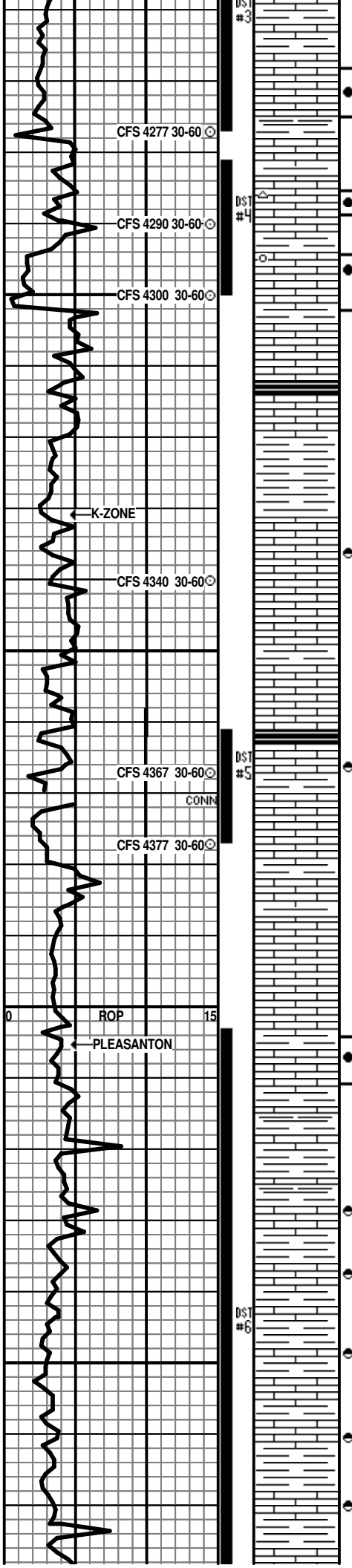
15 STAND SHORT TRIP PRIOR TO DST #1.

BOARD: 4026.23, STRAP: 4023.98, STRAP WAS SHORT 2.25'

Hot-Wire 100

DST #1: TORONTO: 3996-4022: WEAK INCR BLOW 5" IFP, 2" FFP; 15-30-45-60: 120' GIP, 70' OCM, 120' WCO; SIP: 1040- 1041, FP: 21-50, 213-276.

MUD-CO MUD CHECK: 4022: 06/16-1pm: VIS 42, WT 9.2, WL 11.6, pH 8.5, CHL 3500, LCM 2#.



blocky; smokey chert; no visible por; N.S.

LS: lt-md brown; vf-xtal; med oolite in part; trace tight int ool por & tight vug porosity w/ spotted stain & sli show oil, no odor; 4277-30m, sli incr 4477-60m.

LS: lt-md grayish brown; vf-xtal; mostly dense to sli chalky; much oolitic chert; trace vug porosity w/pin-point stain & sli show oil; no odor; 4290-30 & 60.

LS: lt-gray; vf-xtal; poor oom por w/trc dk brn spotted stain & v-sli show oil in 30 min; incr in 60 min.

4300

STARK SH 4312 (-1466)
Shale: black; carbon; 4330.

LS: lt-md grayish brown; vf-xtal; dense; N.S.

Shale: gray, greenish gray;

LS: lt-brn, lt gray, off white; vf-xtal; grainstone; fos-frag to oolitic in part; sli chert; tight int gran porosity, N.S., trace vug w/lt brn stain, no oil; looks washed out; 4340-30m.

4350

LS: lt-gray; mic-vf xtal; chalky in part; trc poor oom & scattered fine vug to pin-point porosity; N.S.

HUSHPUCKNEY 4361 (-1515)
Shale: black; carbon; 4367-30 min.
LS: lt-md grayish brown; vf-xtal; dense; sli fos; no druse, no coarse calcites, 1 chip fine vug w/lt brn stain; no oil; 4367-60 min.

L-zone: LS: lt-brown, lt gray; vf-xtal; scattered fine vug & v-poor oom porosity; N.S.

LS: lt-grayish brown; vf-xtal; mostly dense, platy; chalky in minor part; sli cherty; no visible porosity; N.S.

4400

LS: lt-md brown, gray; vf-xtal; dense to chalky in part; scattered fine vug porosity w/spotted stain & sli show oil; poor stain dry; 4420.

LS: md grayish brown; vf-xtal, trace druse w/sli stain & sli show oil; no odor; 4440.

LS: w/stain & druse as above 4450.

4450

LS: md grayish brown; vf-xtal; granular; tight int gran & fine vug porosity w/spotted stain & sli show oil; no odor; trace 4460.

LS: lt brown; mic-vf xtal; chalky; scattered pin point & fine vugs w/speckled stain; crush few micro-drops oil; no odor; 4470.

LS: lt-grayish brown; vf-xtal; trace med vug porosity w/dk brn stain & sli show oil; no odor; 4480.

LS: lt brown; vf-xtal; scattered pin point por w/lt

DST #3: I-ZONE: 4253-4277: WEAK INC BLOW 2" IFP; 15-30-45-60; 65' MCO; SIP: 1131-1085; FP: 19-25, 27-41.

DST #4: J-ZONE: 4381-4300: BLOW 8" IFP; BOB 28 min FFP; 15-30-30-60; 286' MCW; SIP: 1172-1172; FP: 21-65, 68-151.

MUD-CO MUD CHECK: 4300: 06/19-11am: VIS 44, WT 9.2, WL 8.8, pH 10.5, CHL 5200; LCM 2#.

TRIPLEX PUMP RATE 100-110 SPM, DOWN FROM 120 SPM BEFORE DST #4, PROB DUE TO MECH PROB.

FIX PUMP BEFORE DRILL AHEAD. PUMP RATE 118 SPM.

DST #5: L-ZONE: 4361-4377: NO BLOW; 15-30-11-T.O.H.; 1' MUD; SIP: 18-NA; FP: 15-17, 16-18.

MUD-CO MUD CHECK: 4377: 06/20-11am: VIS 71, WT 9.1, WL 8.4, pH 10.5, CHL 4500, LCM 1#.

Hot-Wire 100

DST #6: PLEASANTON, MARMATON: 4403-4495: WEAK INCR BLOW 6" IFP, BOB 29 MIN FFP; 15-30-30-60; 90' GIP, 90' OCM; SIP: 967-980; FP: 21-32, 42-53.

