3 ") !B+'$%+%8,E '8$#4#%A+#$5% C% A#$"@+'4 C#
U$@$B E%+%) $'8 5%' %'$#'%+%8,E '8$#4#
BB$('%+C5%+C+B,H$%5+'+
FC'$"E"$'%5+'+%+C5%1 ") %+%(C(B!#4 C
)) !C4(+'$%#(4$C'414(%14C54C/#%

F5$C'41,%8 G%M+'!"+B%*$B$('4 C%8+#%A" !/8'%+A !'%$@ B!'4 C+",%(8+C/$
U$#("4A$%'8$%) B$(!B+"%E" ($##$#%'8+'%!C5$"B4$%$@ B!'4 C

LVEB+4C%$@ B!'4 C+",%) $(8+C4#) #%+C5%'8$4"%11('#% C%E E!B+'4 C#
%W$B+'$%+BBB%+C5%/$C ',E4(%1"$K!$C(4$#%4C%+%E E!B+'4 C%!#4C/%'8$%R+"5,-X$4CA$"/%$K!+'4 C
F5$C'41,%'8$%5411$"$C'%E+''$"C#%'8+'%M+'!"+B%#$B$('4 C%(+C%1 BB G%4C(B!54C/%54"$('4 C+B%#$B$('4 C6%#'+A4B4H4C/%#$B$('4 C6%
54#"!E'4@$%#$B$('4 C6%A+B+C(4C/%#$B$('4 C%+C5%#$V!+B%#B('4 C

U$#("4A$%'8$%R+"5,-X$4CA$"/%O+G
Y#$%'8$%R+"5,-X$4CA$"/%O+G%' %(+B(!B+'$%+BB$B$%1"$K!$C(4$#%4C%+%E E!B+'4 C
EEB,%'8$%R+"5,-X$4CA$"/%O+G%' %8!) +C%E E!B+'4 C#
U$14C$%/C'4(%5"41'%+C5%$VEB+4C%8 G%4'%(+!#$#%"+C5) %(8+C/$#%4C%+BB$B$%1"$K!$C(,%4C%#) +BB%E E!B+'4 C#
LVEB+4C%8 G%C+'!"+B%#B('4 C%4#%+%) +Z "%1 "($%5"4@4C/%(8+C/$#%4C%+BBB%1"$K!$C(,

F5$C'41,%'8$%) $(8+C4#) #% 1%#E$(4+'4 C
U$14C$%) +(" $@ B!'4 C%+C5%#4'$%$V+) EB$#% 1%8 G%4'%8$BE#%("$+'$%C$G%#E$(4$#
) E+"$%+C5%(C'"+#'%/"+5!+B4#) %+C5%E!C('!+'$5%$K!4B4A"4!)
U4#(!##%'8$%/$C$'4(#%4C@ B@$5%4C%$@ B!'4 C+",%5$@$B E) $C'+B%A4 B /,

LVEB+4C%8 G%$C@4" C) $C'+B%(8+C/$#%4C1B!$C($5%'8$%%1 ") +'4 C%+C5%$V'4C('4 C% 1%#E$(4$#%4C(B!54C/%) +##%$V'4C('4 C#
U4#(!##%#,) A4 '4(%+C5%$C5 #,) A4 '4(%"$B+'4 C#84E#%'8+'%/+@$%"4#$%' %'8$%$!I+", '$#

EEB,%#(4$C'414(%C) $C(B+'!"$%' %C+) $% "/+C4#) #
Y'4B4H$%'+V C),%' %(B+##41,% "/+C4#) #
W$+5%+C5%4C'$"E"$'%+%E8,B /$C$'4(%'"$$
U$#("4A$%'8$%'8"$$%5) +4C%#,#'$) %+C5%(8+"+('$"4#'4(#% 1%$+(8
F5$C'41,%'8$= $C@4" C) $C'+ K d d ŭ ṅ Ṅ K ⲛ سخي % +C/$# '4(#

F5$C'41,%"$E" 5!('4 C%+5+E'4 C#%+) C/#'%E" '4#'#

) E+"$%+C5%(C'"+#'%#$V!+B%+C5%+#$V!+B%"$E" 5!('4 C%4C%1!C/4
U$#("4A$%'8$%" B$%1!C/4%EB+,%4C%'8$%$C@4" C) $C'%+C5%A4 '$(8C B /4(+B%+EEB4(+'4 C#
LVEB+4C%'8$%$@ B!'4 C%+C5%54@$"#4',% 1%1!C/4

U4#(!##%'8$%+C($#'",%+C5%54@$"#4',% 1%) 5$"C%EB+C'#
LVEB+4C%'8$%54@$"#$%)$'8 5#% 1%"$E" 5!('4 C%4C%EB+C'#%+C5%45$C'41,%"$E" 5!('4@$%#'+/$#
F5$C'41,%(8+"+('$"4#'4(#% 1%/,)C #E$")%+C5%+C/4 #E$")
8+"+('$"4H$%EB+C'#%+#%/,)C #E$")%+C5%+C/4 #E$")

U4#(!##%"$E" 5!('4 C%+C5%/" G'8
F5$C'41,%EB+C'#%4C%$+(8%(+'$/ ",

F5$C'41,%(8+"+('$"4#'4(#%( )) C%' %+BB%)$)A$"#% 1%'8$%I4C/5)% C4)+B4+
U$#("4A$%(8+"+('$"4#'4(#% 1%4C@$"'$A"+'$#%
F5$C'41,% "/+C4#)#%'8+'%+"$%4C@$"'$A"+'$#
U$#("4A$%(8+"+('$"4#'4(#% 1%@$"'$A"+'$#%
F5$C'41,% "/+C4#)#%'8+'%+"$%@$"'$A"+'$#

U4#(!##%A4 '4(%+C5%+A4 '4(%1+(' "#%
F5$C'41,%8 G%$C@4" C)$C'%+C5%(B4)+'$%+11$('%$(B /,
U$14C$%+C5%5$#("4A$%A4)$#

U$#("4A$%3 "+/4C/%A$8+@4 "
LVEB+4C%8 G% "/+C4#)#%G4'84C%+%/" !E%( ))!C4(+'$%G4'8%$+(8% '8$"
U4#(!##%+B'"!4#)
U4#(!##%'8$%4)E+('% 1%/$C$'4(#%+C5%B$+"C4C/% C%A$8+@4 "
LVEB+4C%G8+'%4#%4C@ B@$5%4C%) @$)$C'%+C5%)4/"+'4 C

U411$"$C'4+'$%A$'G$$C%$VE C$C'4+B%+C5%B /4#'4(%/" G'8
U4#'4C/!4#8%A$'G$$C%5$C#4',%5$E$C5$C'%+C5%5$C#4',%4C5$E$C5$C'%1+(' "#
U4#(!##%8!)+C%E E!B+'4 C%/" G'8% C%+%/B A+B%#(+B$
U4#(!##%'8$%4C'"+#E$(414(%4C'$"+('4 C#

U4#(!##%5411$"4C/%@4$G#% 1%( ))!C4'4$#
F5$C'41,%E+''$"C#% 1%#E$(4$#%"4(8C$##
LVEB+4C%8 G%#E$(4$#%"4(8C$##%(+C%(C'"4A!'$%' %( ))!C4',%#'+A4B4',
U4#(!##%4C'$"#E$(414(%4C'$"+('4 C#%

U4#(!##%1 5%G$A#%+C5%$C$"/,%1B G
LVEB+4C%8 G%C"/,%4#%E" 5!($5%4C%$(#,#'$)#
U4#(!##%A4 /$ (8$)4(+B%(,(B$#

LVEB+4C%'8$%4)E "'+C($% 1%(C#$"@4C/% 1%A4 54@$"#4',
O4#'%'8$%(+!#$#% 1%$V'4C('4 C%+C5%B ##% 1%A4 54@$"#4',
."@45$%$V+)EB$#% 1%(C#$"@+'4 C%#'"+'$/4$#

[$%+G+"$% 1%+C,%8+H+"5 !#%)+'$"4+B#%'8+'%)+,%A$%!#$5%5!"4C/%$VE$"4)$C'#%
R+C5B$%(8$)4(+B#%+C5%$K!4E)$C'%4C%+%#+1$%)+CC$"

* !'8% $C'"+B% BB$/$%#'"4@$#%' %)+I$%+BB%B$+"C4C/%VE"4$C($#%+#%+((($##4AB$%+#%E ##4AB$D%F1%, !%8+@$%+%
54#+A4B4',%+C5%C$$5%+(( ))) 5+'4 C#%1 "%+(($##%' %'84#%(B+##6%(C'+('%'8$% (+5$)4(%*!EE "'% C'"%' %"$K!$#'%
+C5%54#(!##%+(( ))) 5+'4 C#D%%%%M "'8%7+CI+' =%W)%[-0>:6%JQ;\S%><P-\:::]%%%3+"4A+!B'=%%W)% -0096%JQ;\S%
>>:-\:::D%

%

554'4 C+B%4C1 "))+'4 C%+C5%1 "))#%(+C%A$%1 !C5%+'=%%GGGD# !'8($C'"+BD$5!T54#+A4B4',%

%

?84#%)+'$"4+B%(+C%A$%)+5$%+@+4B+AB$%4C%+B'$"C+'4@$%1 ")+'#%A,%(C'+('4C/%'8$% (+5$)4(%*!EE "'% C'"%+'%Q;\-
><P-\:::D