

!

!

"#\$%&'()\*+,-./00.100/234!!

1567,8#!

"9)2!; <=; ><?!!

, -@. ' 3=")2A' 3(!

!

B)0.03/C!D2. (!" @E0)F (3=#- . (3!" @E0)F (3!GB)0.2\*03/H=IO+!&:(E0:J=, 0\*\*J!&-)4K=!!%2@K()\*!

L' ++F (3!GLK(2)H=DJ33!#M()/A!N' \*\*!G#0@0/()JH=B044J!N-.J=I(30!N0%' .0!80(3.=! ' 0!

P)0030=, 2F!Q())2. ' 3!GB(. /!B)0.2\*03/H=B0J/' 3!G%(3\*JH!Q0:F=" 33R1 ()20!S3' T:(-@K=

Q0(/K0)!1 @S00!G, )0(. -)0)H=L() ' !:1 0J0).=8)2@!1 0J0).=#K() ' 3!Q0)T0)!GU2@0!

B)0.2\*03/H=, K' F (.!#@K302\*0)=!' 0!#040)=!" 3\*JU(-4K3!G3' 3R0' /234H=IV!8\*M()\*!W)24K/!

!

<V! , KO!LK(2)F (3!@(::0\*!/K0!F 00/234!/' !' )\*0)!(/!< >XB1!

!

;V!

; ><ZH!()0!(99)' 00\*!TJ!-3(32F' -.!@' 3.03/=!

l2F!/' lã 23!/K02)!\*24!(3\*!T0@' F0!" .. '@2(/0!N2)0@/' )V!, KOJ!. K()0\*(!19)' \*-@/200!<<!  
J0().!' +!M' )E!23!/K0!-990)!P (:2:00=9-T:2. K234!(!4)0(/!\*0(:V!, KOJ!9-T:2. K0\*(!  
T' ' Elã 23/:J! 3!/K0!" )@K(O' :' 4J!' +!%(TT2. l23!8():J!LK)2. /2(32/JV!l2F!M(.!(T:0!/' !  
K0:9!2\*03/2+J!. ' F0!' +!/K0!T0(-/J!(3\*!F (42@!K(/!K(\*!2:- F23(/0\*!/K0!0():J!  
@03/-)20. V!8)2@!)0F0FT0).!\*244234!(:' 34. 2\*0!K2F!(/#099K' )2. l+ ' )!)' -4K:J!Y>!  
J0(). V!l2F!M(.!(@/200!23!" #\$\$%=(3\*!/K0!1 0J0).!(3\*!#/) (340!+(F2:20. !23/0)(@/0\*(!/!  
F00/234. =(3\*!23+:-03@0\*!0(@K!' /K0)=/K02)!./- \*03/. =(3\*!@' ::0(4-0. V!8)2@!M(.!  
+)203\* .!M2/K!l2F!/K)' -4K!K2. !K(:+!@03/-)J!' +!T0234!\P (:2:0(3. ]b90' 9:0!MK' !+0::!23!  
' 00!(3\*!MK' !M' )E0\*!23!/K2.!)042' 3!(3\*!. ' -4K!/!' !-3\*0)./(3\*!2/.!-32c-030. . V!  
W0!F2. .!K2F!Q2. !F0F ' )2(:!. 0)02@0!M2:!!T0!K0:\*!23!, (F9(!' 3!" 9)2;!; Z=; ><?V!W0!  
)0F0FT0)!K2F!M2/K!:' 00!(3\*!(+0@/2' 3!+' )!K2. !K-F (32/JV!!  
!  
L()' :!1 0J0). C!WK03!M0!:0()30\*!' +!K2. !\*0(/K!(. !M0!@' F9:0/0\*!/K0!#099K' )2. !  
0' :-F0=MO!\*0@2\*0\*!' !\*0\*2@(/0!2!/!' !K2FV!!  
!  
" !F' F03!/!' +!.2:03@0!M(. !E09/l23!K' 3' )!' +!l2F=(3\*!(99:(-. 0!+' )!K2. !

K//9.ChhMM

!"#\$%#&"()\*"+, !I (. ' 3!7)!2.!(99' 23/0\*!+' )!(!.0@' 3\*!/K)00RJO(!/0)F!' 3!/KO!8\*2/' )2(:!  
&' ()\*!' +! !"#!GI(3-()J!<=;! ;><f!R!NO@OFTO)!Y<=;! ;><?H!

!

!"#\$%#&"()\*"+ G!, (.K(!U' )\*0)./)(..0!2.!(99' 23/0\*!+' )!(3!232/2(:!/K)00RJO(!/0)F!' 3!/KO!  
8\*2/' )2(:!&' ()\*!' +! !"#!GI(3-()J!<=;! ;><f!R!NO@OFTO)!Y<=;! ;><?H!

!

ZTV!! "#\$L:(..!' +! ;><[!G)0/)' (@/200!(99' 23/F03/.H!!

gj Fk)!Q()F(3I(K=+' )!(!/K2)\*!/K)00RJO(!/0)F!' 3!/KO!8\*2/' )2(:!&' ()\*!

' +! !"#! GI(3-()J! <=;! ;><Z! R! NO@OFTO)! Y<=;! ;><[H! RR!!

[K//9Chh4/.VO\\*-h4030\)\(:R30M.h; ><Zh<<h; \[h\(:2.' 3R4\)-.OEOR  
@' 330@/. T2T:2@\(:R.@K':\(\).K29R90\).' 3\(:R2\\*03/2/JV!!!!](#)

gD0.:0J!P)04' )2@E(=+' )!(3!232/2(:!/K)00RJO(!/0)F!' 3!/KO!8\*2/' )2(:!  
&' ()\*!' +! "#!GI(3- ()J!<=; ><?!R!NO@OFTO)!Y<=; >; >H!RR!  
[K//9ChhMMMV.' -/K\(:T\(F\(VO\\*-h@' ::040.h\(\)/.\(3\\*.@Zh.J\(3.Mh\(  
3/K\)' !9' :.' 4Jh:4\)04' \)2@E\(VK/F:V!!](#)

gD' )03A' !\*0" :+' 3. ' =+' )!(3!232/2(:!/K)00RJO(!/0)F!' 3!/KO!8\*2/' )2(:!  
&' ()\*!' +! "#!GI(3- ()J!<=; ><?!R!NO@OFTO)!Y<=; >; >H!RR!  
[K//9Chh2. \(MV3J-VO\\*-h90' 9:0h+\(@-:/Jh2. \(MR+\(@-:/Jh:' \)03A' R  
\\*\(;+' 3.' V!!!!](#)

g1 2@K(0:!D(34:' 2.=+' )!(3!232/2(:!/K)00RJO(!/0)F!' 3!/KO!8\*2/' )2(:!  
&' ()\*!' +! "#!GI(3- ()J!<=; ><?!R!NO@OFTO)!Y<=; >; >H!RR!



0^903.0.!!73E3' M3.!/K(/!F(J!@' F0!23/' !9:(J!23@:-\*0!F' 0234!0^903.0.!  
G+' )0@(.!/rd>=>>>+!)!/K0!F' 00=MK2@K!23@:-\*0. !23@03/200!(3\*!)0:' @(/2' 3!@' ./HW!  
W0!300\*!/' !:' E!23/' !/K2.!F' )0!@:' .0:J=(3\*!M0!()0!\*' 234!' -)!00)J!T0./!' !  
9)' a0@!/!/K0.0!0^903.0.!!

!  
=3/8.?#@5.>#ABCD#E>9F9/52##:2<56,#

#  
"IT(: (3@0\*!T- \*40/!2.!9)' 9' .0\*!W0!K(00!+-3\* .!.0/!(.2\*0!+)' !F' 0234!/, K2.!  
9)0. -99' .0.!(3!(4)00F03!/M2::!T0!0./ (T:2.K0\*!' !T0423!(!9-T:2.K234!)0:(/2' 3.K29!  
M2/K!/K0!73200).2/J!' +!LK2@(4' =MK2@K!9)' F2.0.!. (0234.!(3\*!T030+2/.V!!

!  
G9431<, K0)0!2. !r; >S!23!/K0!pn; ><?!T- \*40/W!W0!()0!4' 234!' !(::' @(/0!-9!/' !  
r<>>S!' +!9)2' )!J0(!9)' +2/=2+!M0!@(3!02/K0)!F (E0!2!@K0(90)!')!+23\*!30M!23@' F0V!!  
!

#-. (3!"@E0)F (3!F (\*0!@' F F03/ .!(T' -!/K0!+(@!/K(/!/K0!T- \*40/!)0+:0@/ .!  
9)- \*03@0=23!020M!' +!/K0!-3@0)/(23/J!()'-3\*!+-3\*234!+ )!(\* \*2/2' 3(:!@-:/-)(:!





.@K0\*-:0!+ )!(M()\*.!/K(/!M(.!9)' 9' .0\*!23!6' 00FT0)!G+' )!.0)02@0!(M()\*.!/'!  
1 (JH=T-!/K2.!K(.!T003!9' ./9' 30\*V!!!  
4V! 1-32')!#@K' :().!3(F0!M2::!T0!@K(340\*!/' !8():J!L()00)!#@K' :().!23!6' 00FT0)=!  
' 3@0!/K0!TJR:(M.!@K(340.!()0!0' /0\*!-9' 3V!!!

!

<; V!!!L' FF2//00! 3!/K0!B' :2@J! 3!B)' +0..2' 3(:!L' 3\*-@/!)09' )/!G, 2F!Q())2.' 3H!!  
L()' :!1 0J0).=!1' 0!P)0030=, 2F!Q())2.' 3!()0!F0FT0).!' +!/K2.!@' FF2//00=MK2@K!  
2.!0:(/200:J!30M!#23@0! -)!:(./!F00/234=!/K0!@' FF2//00!@' 3.2\*0)0\*!' 30!  
)09' )/0\*!2..-0V!, 2F!Q())2.' 3!.K()0\*!K2.!(99)0@2(/2' 3!+' )!L()' :!1 0J0).!(3\*!!' 0!  
P)0030!+' )!/K02)!M' )E!' 3!/K0!@' FF2//00!#-. (3!"@E0)F(3!@' FF03/0\*!/K(/!/K0!  
@' FF2//00!F0FT0).!()0!(99' 23/0\*!+' )!/K)00!J0().V!!!

!

<Y!\$/K0)!&- .230..!##

!!

6' !2/0F .!' +' /K0)!T-.230..V!!!

!!

<XV!" #\$\$%.!60M!\$+2@0!G#-. (3!"@E0)F(3=!" 3\*J!U(-4K3H!  
#-. (3!\*0.@)2T0.!/K0!&' ()\*!F' /2' 3!(3\*!@' 3@0)3.!0:(/234!/' !2/.!\*2)0@/2' 3!/K(/!/K0!  
)03/(:!(3\*!F' 00!' @@-)! 3:J!23!&' ./' 3V!\$30!' +' -)!F(a')!0(. ' 3.!/' !./ (J!23!  
&' ./' 3!M(.!/' !E009!' -)!./ (+W!Q' M000)=!(E0J!./ (+!90). ' 3!K(.!(@@09/0\*!(!  
9' .2/2' 3! -./2\*0!" #\$\$%=MK2@KIT:-3/./K(/!T030+2/W!" \*\*2/2' 3(:J=!/K0!)0(.!23!  
MK2@K!M0!@ (3!(+' )\*!/' !)03!/' )!T-J!23!&' ./' 3!F0(3!/K(/!' /K0)!./ (+!2E0:J!@ (33' /!  
T0!)0/(230\*V!!!

!

, K0!8^0@-/200!L' FF2//00!F0!+' )!(!M00E03\*!:' 34!)0/0(/!23!60M!\$):0(3.!/' !  
\*2.@-. ./!K2.!2..-0V!, K0!8^0@-/200!L' FF2//00!\*0@2\*0\*!/' !' 903!+' )!@' 3.2\*0)(/2' 3!  
' /K0)!:' @(/2' 3.!23!(\*\*2/2' 3!/' !&' ./' 3=TO@(-.0!' +!/K0!@' ./!K(/!@' 3./)(230\*!  
" #\$\$%.!@K' 2@0.V!, K0!:' @(/2' 3.!9)' 9' .0\*!M0)0!(.!+2).!/@K' 2@0!W(.K234/' 3!NL=!  
M2/K!(!.0@' 3\*!@K' 2@0!' +!/K0!%0.0)@K!, )2(34:0!G%(:024K!N-)K(FH!, K0!8^0@-/200!  
L' FF2//00!( \*a' -)30\*!/' !)0.0)@K!MK(/!M(.!+0(.2T:0!+' )!+-3\*)(2.234!@ (9@2/J!(3\*!  
F()E0!@' 3\*2/2' 3.!23!/K0!NL!)0(!8^0@-/200!L' FF2//00!F0FT0).!02.2/0\*!024K!  
9)' 90)/20.!(3\*!M0)0!03/K-.2(/2@!(T' -!/' 9/2' 3.V!532/2(:!.-@@0..!23!+-3\*)(2.234!  
GrY<d=>>>!@' FF2//0\*!(:)0(\*J=23@:-\*234!/M' !0^/)( ')\*23()J!.2^R+24-)0!42+/.!+' )!  
MK2@K!M0!(0!9)' +'-3\*:J!4)(/0+-:H!.0)00!(.!(3!03\*' ).0F03/(3\*!.-99')/!+' )!(!  
F' 00!23!/K2.!\*2)0@/2' 3V!!!

, K0!8^0@-/200!L' FF2//00!K(\*!(!@' 3+0)03@0!@(:!' 3!1 ()@K!;! (3\*!0/0)F230\*!  
":0^(3\*)2(=U" =(.!/K0!9:(@0!MK0)0!/)40/0\*!0++')/.'!/' !+23\*!(!' @(/2' 3!+' )!" #\$\$%!  
M' -:\*!T0!F(\*0V!#-. (3!"@E0)F(3!(3\*!" 3\*J!U(-4K3!K(00!2300./24(/0\*!/K0!)0(!  
(3\*!K(00!+' -3\*!/K0)0!)0!F(3J!3' 3R9)' +2/!/K0)0!MK' .0!23/0)0./!23/0).0@!  
9)' +' -3\*:J!M2/K!" #\$\$%.V!!! #\$\$%!M2::!0(@/0!fd>!&0(@' 3!#/W! 3!!-30!Y>/K!; ><?(3\*!  
) (3.2/2' 3!/' !":0^(3\*)2(!/' !)03!/23!/K0!.K' )!/0)F!(3\*!/' !T-J!23!/K0!:' 34!/0)FV!!!

W0!M2:!!T-2:\*!-9!' -)' 90)(/2' 3!23!/K0!W(.K234/' 3=NLI!)0!(3\*!M23\*!\*' M3!/K0!  
' 90)(/2' 3!23!&' ./' 3V!8^/)(!.9(@0!2.!(0(2:(T:0!/' !N0@0FT0)!Y<!; ><?!(/!fffd!&0(@' 3!  
#/!!W0!M2:!!F' 00!(3J!)0F(23234!./(+!/' !/K(/!' +2@0!+)' F!fd>!&0(@' 3!#/!)00/!!W0!  
M2:!. (J!4' ' \*TJO!/' !' -)!:' 34R.0)0234=@' F90/03/=M2.0!./(+!(3\*!M0!K(00!' ++0)0\*!  
(:!/K0!' 99' )/-32/J!/' !F' 00!M2/K!-.=!T-!/M0!/K23E!/K(/!/K0J!M2:!!3' !/@K' ' .0!' !\*' !  
' V!!

!  
, K0!, )-./00.!\*2.@-..0\*!(!3-FT0)! +!2..-0.!):(/0\*!/' !/K0!F' 00V!!

!  
<dV!N000:' 9F03!/!L' F F2//00!%09' )/!G!V!8\*M() \*!W)24K/H!!

!  
"#\$%!K(.!T003!+' )/-3(/0!23!4(23234!@' F F2/F03/.' !' +!rY; >=>>>!23!-3\*0)!d!  
F' 3/K.=M2/K!.' F0!F(a')!42+/.!. /2:.-3\*0)!@' 3.2\*0)(/2' 3!(3\*!' /K0)!90' 9:0!  
@' 3.2\*0)234!(-4F03/234!/K02)!42+/.V!!p' )!N24!#@K' :().K29.=! -)50164())Tc506BT-0.0q0.247TJE1 TJET

(\*0(3/(40' -.!F' 00!+) )!-.!(3\*(!30@0.. ()J!' 30=23!/0)F .!' +!(@@' F9:2.K234!' -)!  
F2..2' 3V!!

!

, K0!a' -)3(:!0^@K(340!9)' 4)(F!M2::!3' /!@' 3/23-0!23!/K0!:' 34!/0)F=!. /()/234!  
I(3-())J!<.!W!W0!K(00!K0() \*!0()J234!)09' )/!.!+) ' F!/K0!)0.0()@K!@03/0).!(T' -!/K0!  
@' 3.0c-03@0!' +!/K2.V! 1 ' 0234!(/!/K2.!. 900\*!2.!(!)0. -:/!' +!:' .234!+)00!)03/(!:. 9(@0!  
(/!&' ./' 3!73200).2/JV!!L\$B!)0(@K0\*!(!@' 3.03. - .!020M!/K(/!/K2. !2. !/K0!M(J!/' !  
9)' @00\*V!" 3\*J!0^9)0..0\*!K2.!020M!/K(/!/K2. !2. !(4' ' \*!9)' 9' .(:!Q0!/K' -4K/!" #\$\$%!  
4' /!F' )0!/K(3!' )2423(:J!(3/2@29(/0\*V!!

!

" 33R1 ()20!S3' T:(-@K!0^9)0..0\*!K0)!K' 90!/K(/!L" ""%5e.!I#, \$%!(@@0..!M2:!)0F(23!  
-3@K(340\*V!, K0!L" ""%5!:2T)()2(3!2\*03/2+20\*!/K0!a' -)3(:.!/K(/!L" ""%5!T0:2000.!/K(/!  
2!/M2:!!300\*!/' !9-)@K(.0!' -/!' +!9' @E0/!2+!/K0!a' -)3(:!0^@K(340!03\*!.C!  
&"#\$%h68" h!L#\_!" I" =!\$9-. @-:(!G#M0\*2.K!#@K' ' :!" /K03.!(3\*!%' F0H!(3\*!/K0!  
" 33-(!:' +!/K0!&)/2.K!#@K' ' :!(/" /K03.V!!

!

" 3\*J!U(-4K3!(..-0\*!K0)!/K(/!K)00!" #\$\$%a' -)3(:.!M2:!!@' 3/23-0V!!" 3\*J!U(-4K3!  
@' F F2/0\*!/' !M' )E234!M2/K!/K0!7L!B)0..!23!(3!(/0F9/!' !9)0.0)00!/K0!a' -)3(:!  
0^@K(340!+)'!/K0!" #\$\$%!(+2:2(/0\*!@03/0).V!

!

8)2@!1 0J0)..!9)' F9/0\*!(!\*2.@-..2' 3!(T' -!/K0!23@' F0!9)' a0@/2' 3.V!!!  
#K() ' 3!Q0)T0)!F03/2' 30\*!/K(/!/K0!+23(3@2(:!K2/!2. !T2440)!/' !/K0!" :T)24K/!  
53./2/-/0V!#K0!(4)00.!' 3!(190).. ' 3(:!T(.2.!/K(/!2/!2.!(4' ' \*!F' 00=!(3\*!. K0!(..0)/0\*!  
K0)!@' 3+2\*03@0!23!" #\$\$%e. !4' ' \*!M2:!!/' !M' )E!/K234.!' -/!(3\*!F2/24(/0!/K0!+23(3@2(:!  
K2/!/K(/!" :T)24K/!2. !/(E234!+)'!/K0!a' -)3(:.V!!

!!

#-. (3!"@E0)F(3!0^9:(230\*!/K(/!+)' )!" L\$%=/K2. !M2:!!F0(3!(3!(33-(!0^903\*2/-)0!  
' +!r<fff!\*' ::().V!" 3\*J!U(-4K3!23\*2@(/0\*!/K(/!K0!2.!' 9/2F2./2@!/K(/!(3!  
( )(340F03/!+)' )!" L\$%!@(3!T0!M' )E0\*!' -/V!!

!

; !w! ./ (+!(3\*!. 9(@0!@ (9(@2/J!2.!./)0/@K0\*=(3\*!/K2. !M2:!(\*\*\*)0..!/K' .0!2. .-0.!!  
Y!w!/K2. !2. !T030+2@2(:!+23 (3@2(::J!GM2/K!9' .2/200!2F 9(@/.!' 3!./ (+!(3\*!)0003-OH!

!

604 (/200. C!!

G<H!/KO)0!2. !/KO!9' ..2T2:2/J!' +!:' .234!.' F0!@' 3/)':!23!/KO!+-/-)0!(T' -!/K' M!M0!

9)23/!' )!M(J!/K(/!M0!@(3!0^9(3\*!MK(/!M0!9)23/≠



L " "%5!2. !+232. K234!/K0!:2T)()J!0^9(3.2' 3h)03' 0(/2' 3=MK2@K!2. !23!2/.!+23(:!./ (40.!!  
# ' ' 3!2/!.K' -: \*!T0!9' ..2T:0!/' !9)0.03/!/K0!@' F9:0/0\*!9)' a0@/!' !/K0!F -32@29(:!  
(-/K' )2/20.!+' )!+23(:!(99)' 0(:!!  
!!