!

2!.$&-)4!C=8C!

3*/&.#.!'%/45'H!

F.0%(-;!1&'!

!

2!C==DRC==`!

3*/&.#.!'%/45'H!

a%&07!<#A-#N%0!1&'!V+*/&'5!'5&*/45!(-AR'b#0+'5!;#)'/&-#.W!

Z%'#&!<#A-#N%0!1&'!V(-AR'b#0+'5!'5&*/45!+-+'##)'5!;#)'/&-#.W!

F.0%(-;!1&'!

1);-#)'!1&'!!

1&'!*+!1+&-;%2!'5#!1(#&-;%.2!%)A!'5#!9*/'5!B%;-+-;!

1.-%)!1&'! !

1&'!6-.'*&7!9/&N#7!F!!

!

2!8QQ[RC===!

3*/&.#.!'%/45'H!

F(%4#.!*+!10#O%)A#&!'5#!P&#%'!V+*&!"&@!"%N-A!<-''#)2!1&'!6-.'*&7W!

a/&*$#%)!3/0'/&#!-)!'5#!Z%'-)!<-AA0#!14#.!V+*&!"&@!L%)!c-*0X*b.X-2!3*($%&%'-N#!

Z-'#&%'/&#W!

1&'!%)A!,-./%0!3/0'/&#!V+*&!"&@!F&#)#!:-)'#&!%)A!"&@!L*.#$5!T*#&)#&2!1&'!6-.'*&7W!

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F)!$&*4&#..!

3*R#A-'*&!b-'5!<%''5#b!<!J##N#!%)A!;*)'&-M/'-)4!%/'5*&@!/.0+1$'.,2$&3%+$3+24.+52("6+&7+

8."$.#*-+!'2+$3+9'$2*$3:+F)!$&#$%&%'-*)!+*&!6%&N#7!<-00#&@!

!

d)A#&!&#N-.-*)!

9-)40#R%/'5*&!M**X@!!;3<-$%4+9&"$.%=+>)?&'2."+5$-@%A+>%-*)$,+*3"+96B*32$3.+C.D2$-.%+$3+E&24$,+

;3<-*3"@!!3/&&#)'07!/)A#&!&#N-.-*)!+*&!3*&)#00!d)-N#&.-'7!B&#..!+*&!'5#!<#A-#N%0!9*;-#'-#.2!

J#0-4-*).2!%)A!3/0'/&#.!9#&-#.@!

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B/M0-.5#A!

"#$%&'(!*!

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3%'%0*4/#!*+!-)N-'#A!#..%7.!'*!%;;*($%)7!#O5-M-'-*)!%'!'5#!3%)'*&!P%00#&7!*+!1&'2!
3*00#4#!*+!'5#!6*07!3&*..2!L%)R1$&-0!C=CD@!!3*)'&-M/'*&.!-);0/A#!<-;5%#0!:**A!V]UaW2!

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E : 5#)!-.!%!9'*&7!)*'!%!9'*&7m!!9#;/0%&! f %&&%'-N#!F (%4#&7!*)!'5#! 1 05% (M&%! 3#-0-)4.!%)A!'5#!!
35-N%0&-;!] &A#&!*+!'5#!U%)A%@K!F)N-'#A!;*)'&-M/'-*)!'*!%)!#A-'#A!N*0/ (#!#)'-'0#A!
*O'.) &". '3+P*G-.%+*3"+24.$'+! ("$.3,.2!#A-'#A!M7! f #4/-)! n %N%&-2!-)!'5#!FZa o!G*/)A%'-*)!
.#&-#.!A-.'&-M/'#A!M7! 6 %&N%&A! d)-N#&.-'7!B&#..@! ! '2$,-.=+(3". '+'.#$. 0:!

!

E J* (%)!%)A!F ($#&-%0H! I #O'-0#.2!" &#..2!%)A! J* (%)-'%.!-)! I 5-&'##)'5R 3#)'/&7!U&-'%-)@K!G*&!%!
.$#;-%0!-../#!*+!52("$.%+$3+I*2.+!32$Q($26@! ! '2$,-.N+(3". '+'.#$. 0:!

!

E9##-)4!%)A! d)A#&.'%)A-)4H! , -./%0-Y-)4!'5#!G&%4 (#)'#A! 35#&'.#7! I -0#.!-)!9 '$3<$3<+24.+H&-6+
I*3"+H&) .:R+F)N-'#A!;*)'&-M/'-*)!'*! 1 $<$2*-+ 8 ."$.#*-+52("$.%SF'(%*". '%+*3"+
F&) ?(2. '%2!#A@! f %'%.5%! 6 *A4.*)2!9#%)! P -0.A*&+2!%)A!Z%/&%! < *&&#%0#2! 1 J 3! 6 / (%)-'-#.!
B&#..2!+*&'5;* (-)4!C=C>@! ! '2$,-.N+$3+?'. ?*'*2$&3:+

E

!

!

V;*)'# ($*&%&7!'#O'-0#!%&'W2!;/&%'#A!M7!Z#.0-#!9;5* ($!%)A!3%)A-;#!9 (-'5!3*&M7@!!] 9B!
3%'%0*4.2!C=8C@!!!
!

E35&-.'S.!P*0A#)!,*-;#H!I5#!:%00R$%-)'-)4.!*+!'5#!B%0%-.!A#.!B%$#.2!1N-4)*)@K!!*U&'"+M+>)*<.2!!
N*0@!Ch2!)*@!D2!C=88H!DD^RD^>@!!!

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EI5#!B-04&-(2!'5#!F(%4#2!%)A!'5#!:*&A!-)!F.0%(@K!!F)!O$-<'$)*<.+*3"+P*$24A+9("'4$%)=++
F4'$%2$*3$26=+*3"+>%-*)2!#O5-M-'-*)!;%'%0*4/#2!#A@!,-&4-)-%!J%4/-)!#'!%0@!!9#&-)A-%!B&#..2!
C=8=H!D=[R8`@+

!

E3&*..R3/0'/&%0!9'70#!-)!'5#!105%(M&%H!I#O'-0#.2!FA#)'-'72!%)A!]&-4-).@K!!8."$.#*-+;3,&(32.'%2!
N*0@!8^2!)*@!CRD2!C==[H!D^8RD>h@!

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EIb*!U**X.!*+!6*/&.

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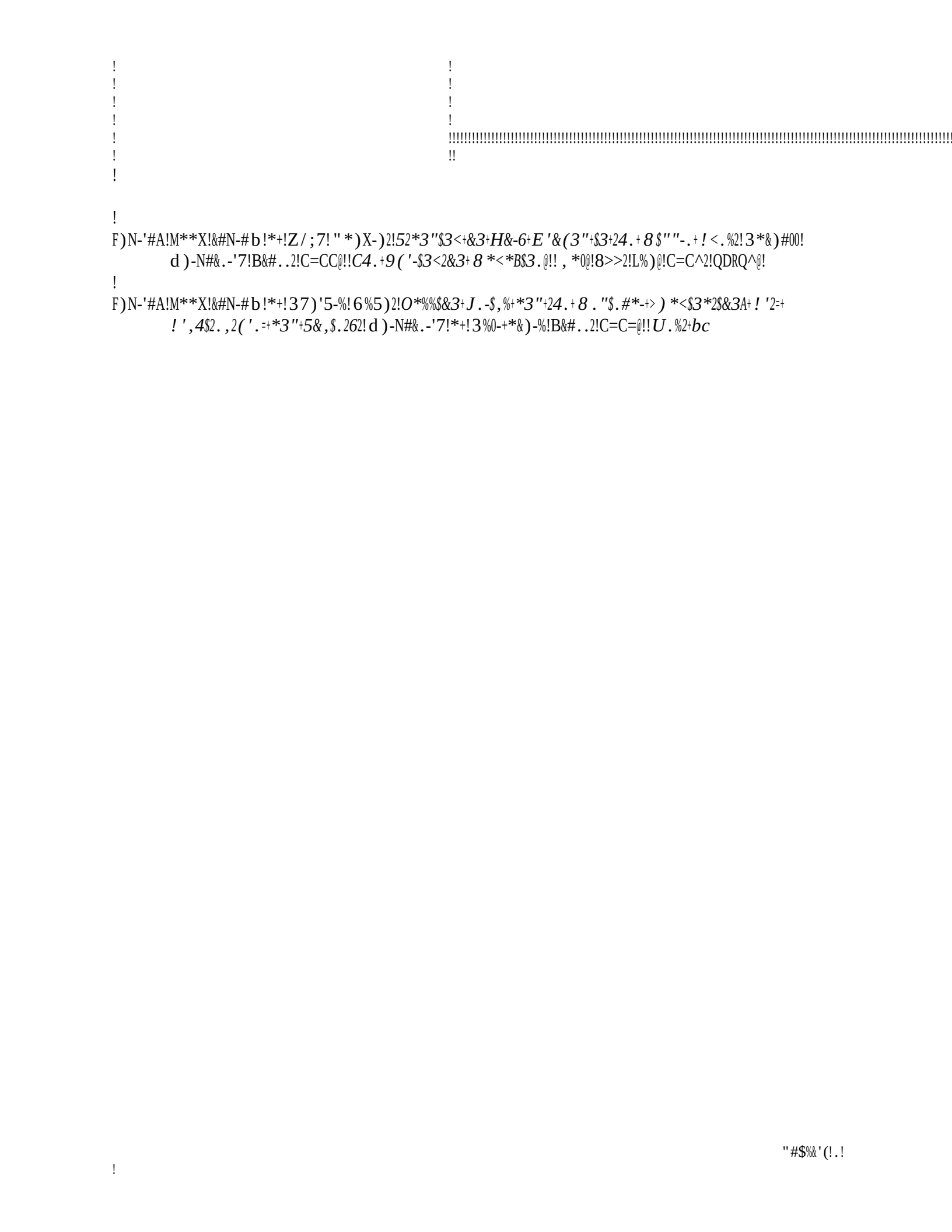

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I5#!B%/0!<#00*)!3#)'&#!+*&!9'/A-#.!-)!U&-'-.5!1&'2!J#.#%&;5!9/$$*&'!P&%)'@!C===R=8!
G*&!&#.#%&;5!*)!'5#!35#&'.#7!'-0#.@!
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<#00*)!G#00*b!-)!6/(%)-.'-;!9'/A-#.2!:**A&*b!:-0.*)!G*/)A%'-*)@!8QQ>RQh!
G/00!.;5*0%&.5-$!%)A!.'-$#)A!+*&!+-&.'!7#%&!*+!4&%A/%'#!.'/A7@!
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B5-!U#'%!T%$$%2!1(5#&.'!3*00#4#@!!8QQ`!
!
f%'-*)%0!<#&-'!9;5*0%&@!!8QQC!
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B&#.-A#)'-%0!9;5*0%&!G-)%0-.'@!!8QQC!
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F!5%N#!$0%7#A!%!0#%A-)4!&*0#!-)!b&-'-)4!%)A!#A-'-)4!%$$0-;%'-*).!+&*(!'5#!3*00#4#!*+!'5#!6*07!
3&*..!'*!%!N%&-#'7!*+!)%'-*)%0!%)A!-)'#&)%'-*)%0!4&%)'!*&4%)-Y%'-*).!+*&!0*%).!%)A!$&*4&%((-)4!
%..*;-%'#A!b-'5!'5#!/$;*(-)4!3&/.%A#.!#05-M-'-*)@!!10*)4!b-'5!<#&#A-'5!G0/X#!V"-&#;'*&2!3%)'*&!
P%00#&7W!%)A!6#%'5#&!T/&'Y!V"-&#;'*&2!G*/)A%'-*)!%)A!3*&$*&%'#!J#0%'-*).W2!b#!5%N#!
./;;#..+/007!%$$0-#A!'*!'5#!+*00*b-)4!+*/)A%'-*).H!
!
f%'-*)%0!a)A*b(#)'!+*&!'5#!6/(%)-'-#.@!1b%&A#A!t8==2===@!!B&-);-$%0!F)N#.'-4%'*&H!!
1(%)A%!Z/7.'#&@!!C=CC!
P0%A7.!T&-#M0#!"#0(%.!G*/)A%'-*)@!!1b%&A#A!t8=2===@!!C=CC!
<%&7!L%5%&-.!3#)'#&@!1b%&A#A!t8=2===@!C=CC!
9%(/#0!6@!T&#..!G*/)A%'-*)@!!1b%&A#A!t^2[==@!!C=C8!
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U%';5#0*&!G*&A!9/((#&!G#00*b.5-$2!3*00#4#!*+!'5#!6*07!3&*..2!+*&!M**X!$&*e#;'!;3<-$%4+9&"$.%=+
›)?&'2."+5$-@%A+›%-*)$,+*3"+96B*32$3.+C.D2$-.%+$3+E&24$,+;3<-*3"@!9/((#&!C=C^@!
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3*00#4#!*+!'5#!6*07!3&*..!3*(-''##!*)!G%;/0'7!9;5*0%&.5-$!J#.#%&;5!1b%&A2!+*&!&#.#%&;5!
'&%N#0!+*&!M**X2!;3<-$%4+9&"$.%=+›)?&'2."+5$-@%A+C4.+›)?*,2+&7+›%-*)$,+*3"+96B*32$3.+C.D2$-.%+$3+
E&24$,+;3<-*3"@!9/((#&!C=CD@!
!
3*00#4#!*+!'5#!6*07!3&*..!3*(-''##!*)!G%;/0'7!9;5*0%&.5-$!B/M0-;%'-*)!1b%&A2!+*&!;*.'!*+!
-(%4#.!%)A!$#&(-..-*).!+*&!M**X!b-'5!3%(M&-A4#@!!G%00!C=CC@!
!
U%';5#0*&!G*&A!9/((#&!G#00*b.5-$2!3*00#4#!*+!'5#!6*07!3&*..2!+*&!;/&%'-)4!%)!#05-M-'-*)!
9'$3<$3<+24.+H&-6+I*3"+H&).=+C4.+F'(%*".%=+F4.'2%.6+!GG.6=+*3"+24.+J.,&3%2'(,2$&3+&7+*+
8."$.#*-+8*%2.'?$.,.@!!9/((#&!C=CC@!
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E J#'&*.$#;'-N#H!U&-)4-)4!'5#!6*07!Z%)A!6*(#@K!F'5%;%!3*00#4#@!1$&-0!C=C^@!

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E I5#!3&/.%A#.2!'5#!35#&'.#7!I-0#.2!%)A!%!f#b!<#A-#N%0!1&'!6-.'*&72K!<*&0#7!3*00#4#2!Z*)A*)2!dT2!+*&!<*&0#7!<#A-#N%0@!f*N@2!C=CD@!

!

E:%00RB%-)'-)4.!%)A!F($*&'#A!I#O'-0#.2K!b*&X.5*$!+*&!'5#!<#A-#N%0!:%00!B%-)'-)4.!J#.#%&;5!P&*/$2!3*/&'%/0A!F).'-'/'#!*+!1&'2!d)-N#&.-'7!*+!Z*)A*)2!dT@!1/4@2!C=CD@!

!

E:57!'5#!35#&'.#7!I-0#.m!Z*.'!Z%'-)!I#O'.2!J#A-.;*N#&#A!F(%4#.!*+!'5#!3&/.%A#.2!%)A!%!B*..-M0#!G#(%0#!B%'&*)@K!!<#A-#N%0!3-&;0#!Z#;'/&#.2!U&*b)!d)-N#&.-'7@!G#M@!C=CD@!

!

G&-#)A.!*+!'5#!F3<1!*)0-)#!$%)#02!EdS;*(-)4!1''&%;'-*).H!9$&-)4!C=CD!aO5-M-'-*).!*+!<#A-#N%0!1&'@K!!f*N@!C=CC@!!1N%-0%M0#!*)0-)#!%'!5''$.Hjjbbb@(#A-#N%0%&'@*&4j.$#;-%0R*)0-)#R0#;'/&#.!!

!

EF)'&*A/;-)4!gU&-)4-)4!'5#!6*07!Z%)A!6*(#2SK!<#A-#N%0!%)A!J#)%-..%);#!9'/A-#.2!3*00#4#!*+!'5#!6*07!3&*..@!9#$'@!C=CC@!

!

E<#A-#N%0!<#A%00-*)RB%''#&)#A!9-0X.H!a%.'!%)A!:#.'@K!!3*00#4#!*+!1&'.2!f*&'5#%.'#&)!d)-N#&.-'7!V!"#$W!-)!95#)7%)42!35-)%@!!L/07!C=CC@!

!

E<*N#(#)'@K!!n%0#!d)-N#&.-'7S.!B%/0!<#00*)!3#)'&#!+*&!9'/A-#.!-)!U&-'-.5!1&'2!Z*)A*)2!dT@!!B/M0-;!Z#;'/&#!9#&-#.H!EU&-'%-)!%)A!'5#!:*&0A@K!!<%7!C=CC@!!G*&!&#;*&A#A!0#;'/&#!.##H!5''$.Hjjbbb@$%/0R(#00*)R;#)'&#@%;@/Xjb5%'.R*)j$0;RM&-'%-)R%)AR'5#Rb*&0AR-)R'5#R(-AA0#R%4#.!!

!

E I5#!B/YY0#!*+!'5#!35#&'.#7!I-0#.H!B/''-)4!'5#!B-#;#.!I*4#'5#&@K!!I5#!35#&'.#7!9*;-#'72!35#&'.#7!</.#/(2!dT@!!G#M&/%&7!C=CC@!

!

Eg<*&#!B&#;-*/.!'5%)!'5#!T-)4SH!U7Y%)'-)#!9-0X.2!'5#!35#&'.#7!3*(M%'!I-0#.2!%)A!a)40-.5!F($#&-%0!1.$-&%'-*).@K!!I5#!3%(M&-A4#!<#A-#N%0!1&'!9#(-)%&2!3%(M&-A4#!d)-N#&.-'72!dT2!];'*M#&!C=C8@!

!

E]0A2!,%0/%M0#2!%)A!9'&%)4#H!<#A-#N%0!B&%;'-;#.!*+!3*00#;'-*)!%)A!<*A#&)!P0*M%0!aO5-M-'-*).@K!!F)N-'#A!0#;'/&#!%)A!&*/)A'%M0#@!!"#0%b%&#!,%00#7!<#A-#N%0!1..*;-%'-*)2!9#$'#(M#&!C=C8@!!!G*&!&#;*&A#A!0#;'/&#!.##H!5''$.Hjj;/&%'-)4%&'*+'5#40*M%0(-AA0#%4#.@M0*4.@M&7)(%b&@#A/j$&#&#;*&A#AR'%0X.j!

!

EG&*(!G&%4(#)'!'*!G0**&H!1!"-4-'%0!J#;*).'&/;'-*)!*+!'5#!35#&'.#7!3*(M%'!9#&-#.!I-0#.!Va)40-.52!;@!8C`=W!%)A!I5#-&!Z*.'!I#O'.@K!!d)-N#&.-'7!*+!]O+*&A2!V#)W;*A-)4!6#&-'%4#!9#(-)%&!9#&-#.2!<%7!C=C8@!!G*&!&#;*&A#A!0#;'/&#!.##!5''$.Hjj'*&;5@*O@%;@/Xj%RA-4-'%0R&#;*).'&/;'-*)R*+R'5#R;5#&'.#7R;*(M%'R.#&-#.R'-0#.R#)40-.5R;@R8C`=R$&*+@R%(%)A%R0/7.'#&!

!

E a)40-.5!,-.-*).!*+!'5#!a%.'H!6#)&7!FFF2!'5#!3&/.%A#.2!%)A!'5#!3*.(*$*0-'%)!3/0'/&#!*+!"-.$0%7!-)!I5-&'##)'5R;#)'/&7!a)40%)A@K!!3*00#4#!*+!'5#!6*07!3&*..2!G%;/0'7!9;5*0%&.5-$!Z/);5!.#&-#.@!!G#M&/%&7!C=C8Q@!

!

"#$%&'(!)*!

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Ea)40-.5!U*A-#.2!F($*&'#A!9-0X.H!U7Y%)'-)#!I#O'-0#.!-)!I5-&'##)'5R;#)'/&7!a)40%)A@K!!I5#!<%&7!
L%5%&-.!3#)'#&!+*&!U7Y%)'-)#!1&'!%)A!3/0'/&#!%)A!'5#!3*((-''##!*)!<#A-#N%0!9'/A-#.2!6%&N%&A!
d)-N#&.-'72!%'!6%&N%&A!d)-N#&.-'7@!! f*N#(M#&!C=8[@!
!
EI5#!U-&'5!*+!'5#!9-4)%'/&#@K!G-N#!3*00#4#!<#A-#N%0!9'/A-#.!9#(-)%&@!!d)-N#&.-'7!*+!
<%..%;5/.#''.!1(5#&.'@!!9#$'#(M#&!C=8[@!!
!
E3*00#;'-*).jJ#;*00#;'-*).H!I5#!d.#!*+!I#O'!-)!f#'b*&X.!*+!3*00#;'-*)@!!<#A-#N%0!F)N#)'*&-#.2!
Z%M#0.2!F).;&-$'-*).2!%)A!<#(*&7@K!Z#;'/&#!-)!.#(-)%&!.#&-#.!*)!'5#!6-.'*&7!*+!3*00#;'-*)@!!
F).'-'/'#!*+!6-.'*&-;%0!J#.#%&;52!Z*)A*)@!!L%)/%&7!C=8[@!!!!
!
EI5#!35#&'.#7!I-0#.H!a)40%)A!%)A!'5#!a%.'@K!F)N-'#A!'*!0#%A!%!5%)A0-)4!.#..-*)!+*&!'5#!3*/&'%/0A!
F).'-'/'#!-)!;*)e/);'-*)!b-'5!'5#!U&-'-.5!</.#/(@!!1'!'5#!U&-'-.5!</.#/(2!Z*)A*)@!!L/)#!C=8h@!
!
EI5#!U#%/'-+/0!9;-#);#!*+!B000.2424 18.14);0.82/TT81050 1 384#5##!(5#)0.22(A-)0.&!3/0(0.82/TT81050 1 384.

!

!

!

E 1 &'5 /&-%)!Z#4#)A.!-)! < #A-#N%0! 1 &'@K!! < -))#.*'%!9'%'#! d)-N#&.-'72!] ;'@!C[2!C==D@!

!

E I 5#! a%&0-#.'! a)40-.5!F (%4#.!*+! I &-.'%)!%)A!F.#/'H! I 5#! 3*)'#O'!%)A!F)'#&$&#'%'-*)!*+!'5#!
35#&'.#7! I -0#.@K! d)-N#&.-'7!*+! 6 /002! < #A-#N%0!9'/A-#.!"#$%&' (#)'2! 6 /002! d@T@_!G#M@!C[2!C==8@!

!

E J #$&#.#)'%'-*).!*+! I &-.'%)!%)A!F.*0A#!-)! < #A-#N%0! 1 &;5-'#;'/&#H! I 5#!G*/&'##)'5R3#)'/&7! : %00R
B%-)'-)4.!%'!9'

"#$%&'(!),!

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EU&-)4-)4!'5#!6*07!Z%)A!6*(#H!I5#!3&/.%A#.2!35#&'.#7!1MM#72!%)A!'5#!J#;*).'&/;'-*)!*+!%!
<#A-#N%0!<%.'#&$-#;#@K!!f#b!a)40%)A!<#A-#N%0!3*).*&'-/(2!3*00#4#!*+!'5#!6*07!3&*..2!<%&;5!

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E I 5#! 1 05% (M&%H!'5#!B%0%;#2!B0#%. /&#2!%)A!B* b#&@K!! 3 *00#4#!*+!'5#! 6 *07! 3&*. .!;*/&. #2!
E 1&;5-'#;'/&%0!9'/A-#. !F2K!0%'#&!&#N-. #A!'*!E P 0*M%0! 6 -. '*&7!*+! 1&;5-'#;'/&#@K!!] ;'@!D=2!C==h2!&#$#%'!
-)N-'%'-*)!*)!] ;'@!Ch2!C==Q!%)A!*)! < %&;5!8[2!C=8^@!
!
EF. 0% (-;! P %&A#). @K! 3 *00#4#!*+!'5#! 6 *07! 3&*. .!;*/&. #2!E P %&A#). !%)A! J #0-4-*/. ! I &%A-'-*). @K!!G#M@!
CC2!C==[2!&#$#%'!-)N-'%'-*)!*)!G#M@!8h!%)A!C82!C=882!%)A!G#M@!8Q2!C=8>2!%)A!9#$'@!Ch2!C=8[@!
!
E 35&-. 'S. ! P *0A#)! , *-;#H! I 5#! : %00RB%-)'-)4. !*+!'5#!B%0%-. !A#. !B%$#. 2! 1 N-4)*)@K! 3 *00#4#!*+!'5#!
6 *07! 3&*. .! < #A-#N%0! \ ! J #)%-. .%);#! 3 *00* r /-/ (!%)A!" #$%&' (#)'!*+! , -. /%0! 1&'. !0#;'/&#@!! < %&@!
8=2!C=8=@!
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!

!
F)N-'#A!'*!&#N-# b! (%'#&-%0. !+*&!'5#! < %; 1&'5/&!G#00* b . 5-$2! f %'-*)%0! a)A* b (#)'!+*&!'5#!
6 / (%)-'-#. !V f a 6W2!] O+*&A! d)-N#&. -'7!B&#. . 2!B#))!9'%'#! d)-N#&. -'7!B&#. . 2!*E* . %2*2!*5?* . , *(-( )* 2!
52("$. %+$3+>, &3&< '*?462!K&('3*-+&7+ ; , , -. %$%2$, *-+H$%2&'62!%)A!*'5#&. @!
!
a O'#&)%0! J #N-# b #&2!G-)#! 1&'. !"#$'2!9'@! 1) . #0 (!3 *00#4#2! f 6@! < %7!C=C8@!
!
I 5#!F)'#&)%'-*)%0! 3#)'#&!*+! < #A-#N%0! 1&'!!
!

2!-)N-'#A!%)A!#0#;'#A!$*. -'-*)2!C=CDRC=C^@!!

J #. $*). -M0#!+*&!)* (-)%'-)4!. ;5*0%&. !+*&!. #%'. !*)!'5#!U*%&A!*+!"-&#;'*&. !%)A!'5#!)#O'!
7#%&S. ! f * (-)%'-)4! 3 * ((-''##@!!
!
f * (-)%'-)4! 3 * ((-''##2!#0#;'#A!$*. -'-*)@!C=CCRCD@

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