



?7-70/7-!B%8D,+>+\$>D7>!"%%+D/7&/+-'!  
!!!!!! \ =VV!B</a=!C+<!b?+-&</V#&/+-%!&+!B%8D,+>+\$8!7%!7!ID/=-D=c'!9: :T!  
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2=<<8'!\*@ . @!H7-!0=J+11=>'!\*@ 6 @ \ @! Ih-hD, 7>'! ?@!" --/%!4@ ?@!27, #D, =&! I@! ?7H7>>/QIC+<a7'M@M@!7-0!  
 . /&d/- '! \ @ " @!X9:TOY@!!K-!&, =!30\$=!+C!&, =! +<=%&P! ?#>&#<7>!" 071&7&/+ -!7-0! ? +\$- /&/H=!  
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^&-&=<-7&/+7>!I8A1+%/#A!+!-/<D#A1+>7<!\>7>&, @! ?+1=-,7\$=-P!N+<0/D! ?+#+D/>@!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!  
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4=%>7<D,!7-0!I=<H/D=%!C+<! ? ,/>0<=-!'`/&,!I1=D/7>!N==0%!'X11@!;LQ\$9Y@!! f7-D+#H=<P!G2 ?!B<=%%@!!  
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2=<<8'!\*@ . @! [7%=-'!B@4@7-0! . /&d/-!'! @ ` @!X9:T;Y@!! [ =H=>+1A=-&7>!&, =+</=%!/-!D<+%QD#&#<7>!1=<1=D&/H=@!  
!^!-!M@!"0>=<!X30%Y!' ?<+%Q ?#&#<7>!4=%>7<D,!' !&!%#=#!'!X11@!9;Q(9Y@!N=`!5+<dP!"D70=A/D!B<=%%@!  
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Z@3Dd7<0!7-0!M@!I1<#-\$!X30%Y!'!^!6=A+<#A!P! . @! . #-0&'!X11@!:(99)Y@!2=<0/-! [ [4P! [=#&D,=<!  
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. ++0%!X30%Y!'!B=<%1=D&/H=%!/-!^AA/\$<7-&!7-0!6/-+</&8!30#D7&/+-'!X11@!ORQLTY@!!N=`!5+<dP!!  
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/AA/\$<7-&!%&#0=-&@!!^!-!4@!I7A#07!7-0!I@! . ++0%!X30%Y!'!B=<%1=D&/H=%!/-!^AA/\$<7-&!7-0!6/-+</&8!  
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^H/-=!7-0!\*@ . @!2=<<8!X30%Y!' \ #A7-!"%=%%A=-&7-0! ?#&#<7>!7D&+%'!X11@!99LQ9(RY@!N=`!  
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2=<<8'!\*@ . @!X9:T;Y@!! 6#&/D#&#<7>!7&/&#0=%!7-0!0#D7&/+-%!!^!-!4@!I7A#07!'!\*@ . @!2=<<8!7-0!6@!M7C=</i<<=  
X30%Y!'6#&/D#&#<7>/%A!/-! ?7-707P!!I+D/7>!7-0!30#D7&/+7>!B=<%1=D&/H=%!'!X11@!9);Q99;Y@!!  
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3k1%D7&/+-%!/-! ?<+%Q ?#&#<7>B%8D,+>+\$8!'!X11@!;:(Q\$)Y@!M/%=%P!!I`=&%!7-0!j=/&/-\$=<@!  
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2=<<8'!\*@ . @!X9:TRY@!! ?#&#<7>!1%8D,+>+\$8!7-0!&=-, -/D!1%8D,+>+\$8P!!"!D+A17<7&/H=!7-7>8%/!\+C!^!-!  
4=8=%QM7\$#=-%!7-0!5@!B++&/-\$7!X30%Y!'!<+A!7! [ /CC=<=-&!B=<%1=D&/H=%!'!X11@!;Q9RY@!!M/%=%P!!I`=&%!  
7-0!j=/&/-\$=<@!  
J/A@!G@!7-0!2=<<8'!\*@ . @!X9:TRY@!! "DD#&#<7&/+-%!&/&#0=%!+C!J+<=7-!/AA/\$<7-&!/-! ?7-707@!!^!-!4=8=%Q  
M7\$#=-%!7-0!5@!B++&/-\$7!X30%Y!'!<+A!7! [ /CC=<=-&!B=<%1=D&/H=%!'!X11@!;:(99)RY@!!M/%=%P!!I`=&%!7-0!  
j=/&/-\$=<@!  
2=<<8'!\*@ . @!X9:TRY@!!B%8D,+>+\$>D7>!7071&7&/+-%!+C!C+<=\$-!%&#0=-&%!/-! ?7-707@!!^!-!4@!I7A#07!7-0!"@!  
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9; : Q9ROY@!!\_<=V#<\$!G-/H=<%/&w&%H=<>7\$!\_<=V#<\$!ID, ` =/a@!!  
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1%8D, +>+\$/=P!3k1=</=-D=!7-0!<=%=7<D, !/\_-!D#>#<7>D+-&=k&'!X11@!(O)Q(LOY@!N= ` V#<8!B7<dP! I7\$=!  
B#V>/D7&/+-%@!  
2=<<8'!\*@ . @!X9: : ;Y@!!3&, -/D!/O=-&/&8!/\_-!1>#<7>!%+D/=&/=%@!!^ -! 6 @!2=<-7>! e !Z@! J -/\$, &!X30%Y@!! \_<A7&/+ -!7-0!  
m<7-%A/%%/+ -!+C!3&, -/D!^O=-&/&8'!X11@!(L9Q( : OY@! " >V7-8P! I &7&=!G-/H=<%/&8!+C!N= ` !5 +<d!B<=%@!  
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X30Y@!! ? +\$ -/&/+ -!7-0!D#>#<=P! " ! ?<+%QD#>#<7>!711<+7D, !&+!D+\$ -/&/H=!1%8D, +>+\$8'!X11@! ; 09Q; LRV@!!  
X " OH7-D=%!/\_-!B%8D, +>+\$8! I=</=%Y@!! " A%&=<07AP!3>%=H/=<@!  
2=<<8'!\*@ . @!X9: : ;Y@!! I&<7&=\$/= %!/\_- %&/&#&/+ -=>=>=!0=>f7071&7&/+ -!07- %!>=%!+D/h&h% !1>#<7>/%&=%@!!^ -! [ @!\*#&=7#!  
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>fG-/H=<%/&h!0=! 6 + -&<h7>@!  
2=<<8'!\*@ . @!X9: : ;Y@!! ? +x&% !=&!7H7 -&7\$=%!0#!A#>&/D#>#<7>/%A=P!G-!1+/-&!0#!H#=!D7-70/= -@!!^ -! ?7>+aQ  
m%D, +11'! 6 Q ? !X30Y@!! 3#<+1=P! 6 + -&<=a!B7&&=!2>7-D, ='!X11@!S9RQS; ; Y@!!Z=- iH=P! ?=-&<=!3#<+1=Q  
m/=<%! 6 + -0=@!  
2=<<8'!\*@ . @!X9: : SY@!! " -! =D+>+\$ /D7>!1=<%1=D&/H=!+ -!D#>#<7>!7-0!&, -/D!1%8D, +>+\$8@!!^ -!3@!m<Dd=&&!X30Y@!!  
\ #A7-!O/H=<%/&8P!B=<%1=D&/H=%!+ -!1=+1>=!/ -!D+ -&=k&'!X11@!99RQ9S9Y@!! I7-!\_<7-D/%D+P!\*+%=8Q27%@!!  
2=<<8'!\*@ . @!X9: : SY@!! 3D+>+\$8!+C!/\_-O/H/O#7>/%A!7-0!D+>=>D&/H/%A@!!^ -!G@! J /A!X=&!7>Y!X30%Y@!!^ -O/H/O#7>/%A!  
7-0!D+>=>D&/H/%A'!!!X11@!LLQTSY@!!N= ` V#<8!B7<dP! I7\$=@!

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5+#-\$!e !Z@!M7D,71=>>=!X30%@Y!E#hV=DQ?7-707P!m,=!17&,!7,=70!X11@!( (9Q(; ;Y@!!K&&7`7P!  
G-/H=<%/&8!+C!K&&7`7!B<=%%@!  
2=<<8!\*@ . @!X9: :OY@!! " DD#>&#<7&/+ -!+C!/AA/\$<7-&%@!!^ -!J @!270=!X30@Y! 6/\$<7&/+ -!3&, -/a/&w&'!J + -C>/d&P!  
!!!!!!!!!!!!I8%&=AC<7\$=-!#-0!! 7>>%&#0/= -'X11@!9L9Q9TOY@!!K% -7V<1DdP!G-/H=<%/&w&%H=<>7\$!47%D, @!  
2=<<8!\*@ . @!X9: :OY@!!B%8D, +>+\$8!+C!7DD#>&#<7&/+ -@!!^ -!N@!Z+>OV=<\$=<!e !\*@! f =<, +CC!X30%@Y! ?#>&#<=!7-0!  
B%8D, +>+\$8!X11@!SRLQSTTY@!!N= `!5 +<d!N= `!5 +<d!G-/H=<%/&8!B<=%%@!  
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2=<<8'!\*@ . @!X() )SY@! " -!=D+D#>#<7>!1=<%1=D&/H=+!-!&,=!O=H=>+1A=-&!+C!D+A1=&=-D=@!^ -!4\*!@! I&=<-V=<\$! e !  
3@!Z</\$+<=-d+!X30%eY! ? #>#<7-0!D+A1=&=-D=!X11@; Q((Y@! . 7% ,/- \$&+ -P! " A=</D7-!B%8D, +>+\$>/D7!  
" %>+D/7&/+ -@!  
2=<<8'!\*@ . @!X() )SY! " DD#>#<7&/+ -@!^ -! ?@! I1! =>V=<\$=<!X30eY! 3 -D8D>+17=0/7!+C!711>=0!1%8D, +>+\$8!X f +>!9@!  
11!(LQ;S)@! I7-! [ /=\$+P!3>%=H/=<n " D70=A/D!B<=%%@!  
2=<<8'!\*@ . @! e !m</7-0%'! \ @ ?@!X() )SY! ?<+%%QD#>#<7>!1%8D, +>+\$8!^ -! ?@! I1! =>V=<\$=<!X30eY! 3 -D8D>+17=0/7!  
+C!711>=0!1%8D, +>+\$8!X f +>!9'!11@!R(LQRSSY@! I7-! [ /=\$+P!3>%=H/=<n " D70=A/D!B<=%%@!  
2=<<8'!\*@ . @!X() )SY@ 6 /\$<7D7+'!7DD#>#<7D7+!:=!7071&7D7+@!^ -! I@ [ @! [ 7- &7% [ =!2/7\$! e !Z!\*@!O=!B7/H!  
X30%eY!B%>+>\$/!3n^A/\$<7D7+!:=! ? #>#<7@X11@ ( : QSRV@! I +7!B7#>+!P! ?7%7!O+!B%/D+>+\$/+@!  
2=<<8'!\*@ . @!X() )OY@! " DD#>#<7&/+ -P! " !D+ -D=1&#7>!+H=<H= ` @!!^ -! 6 @!2+<- %&=-/ -! e !M@! ? +&=!X30%eY!  
" DD#>#<7&/+ -!7-0!17<=-&QD, />O!<=>7&/+ -% ,/1%!X11@9;Q; )Y@! 6 7 ` 7, P!M7 ` <=-D=!3<v7#A! " %>+D/7&=%!  
2=<<8'!\*@ . @! e ! " &7D7!2@!X() )OY@! ? #>#<7>!C7D&+<@!^ -! Z@! \_/ -d!X30eY! 3 -D8D>+17=0/7!+C!&=<=%%@! I7-! [ /=\$+P!  
3>%=H/=<@!  
2=<<8'!\*@ . @!X() )OY@! " DD#>#<7&/H=!%&=<=%%@!!^ -!B@! . +- \$! e !M@! . +- \$!X30%eY@! \ 7-0V++d!+C!A#&/D#>#<7>!  
1=<%1=D&/H=+!-!&=<=%%7-0!D+1/- \$@!N= ` !5 +<dP! I1</ - \$=<@!  
2=<<8'!\*@ . @! e !I7A'! [ @!X() )OY@! ? #>#<7>!7-0!& , -/D!C7D&+<@!^ -! ,=7& , @!^ -! I@! " 8=<%!X30eY! ?7AV</O\$=!  
\_ ,7-0V++d!+C!1%8D, +>+\$8'! ,=7& , !7-0!A=0/D/-=!X(#\$! =0eY@! ?7AV</O\$=P! ?7AV</O\$=!G -/H=<%/&8!B<=%%@!  
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2=<<8'!\*@ . @!X() )OY@! ?<+%%QD#>#<7>!1%8D, +>+\$8P! " -!=D+D#>#<7>!711<+7D, @!^ -! E@!\*/ - \$!E@! \ @! j , 7- \$@! \ @! e !  
!!!!!!!!!!!! J @! j , 7- \$!X30%eY@!B%8D, +>+\$>/D7!%D/=-D=!7<+ # -O!& , =! ` +<O!P! f +>#A=( @! \ +H=P!B%8D, +>+\$8!B<=%%@!  
!2=<<8'!\*@ . ! e !m</7-0%'! \ @ ?@!X() )OY@! ? #>#<7>!J@!B7 ` >/d!7-0!Z@!O!f 5 0= ` 7>=>!X30%eY!B%8D, +>+\$>/D7!  
D+ -D=1&@! \ +H=P!B%8D, +>+\$8!B<=%%@!  
I7A'! [ @!M@! e !2=<<8'!\*@ . @!X() )OY@!^ -&+O#D&/+ -!&+!7DD#>#<7&/+ -@!^ -! [ @! I7A! e !\*@ . @!2=<<8'!X30eY!  
?7AV</O\$=! , 7-0V++d!+C!7DD#>#<7&/+ -!1%8D, +>+\$8!X11@9Q9)Y@! ?7AV</O\$=P! ?7AV</O\$=!G -/H=<%/&8!  
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2=<<8'!\*@ . @!X() )OY@! ? +&=k&@!+C!7DD#>#<7&/+ -@!^ -! [ @! I7A! e !\*@ . @!2=<<8'!X30eY! ?7AV</O\$=! , 7-0V++d!+C!  
7DD#>#<7&/+ -!1%8D, +>+\$8!X11@ (LQS(Y@! ?7AV</O\$=P! ?7AV</O\$=!G -/H=<%/&8!B<=%%@!  
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+C!2=,7H/+&#<7>!ID/=-D≡'!;! ;(SQ; ;O@!X4=1</-&=0!/-!\*@ . @!2=<<8!7-0!B@! [ 7%=-!X30%@Y'?#>&#<=!7-0!  
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rm, =!4+>=!+C!B%8D, +>+\$8!/-!^ -&=<-7&/+ -7>! [ =H=>+1A=-&r@!! ?7-70/7-!B%8D, +>+\$/D7>!" %%+D/7&/+ -!  
I8A1+%/#A!'K&&7 ` 7!X%8A1+%/#A!+<\$7-/a=<Y@!!

r " DD#>&#<7&/+ -!7-0! 6 =-&7>!\ =7>&, P!! " !I#AA7<8r!X ` /&, !G@!J /AY@!! . \ K! . +<d%, +1! 6 =k/D+! ?/&8!  
6 =k/D+!7-0!'^ " ? ?B!I=H=-&, !^ -&=<-7&/+ -7>! ?+-C=<=-D=! " D71#>D+! 6 =k/D+@!

r ?#>&#<7>!B%8D, +>+\$8!7-0!3&, -/D>!B%8D, +>+\$8P! " !?+A17<%/+ -r@!!^ " ?B!B<=%/0=-&/7>!" 00<=%!' " D71#>D+!  
6 =k/D+@!

rm+ ` 7<0!7!G-/H=<%7>!B%8D, +>+\$8!+C! ?+-\$-/&/H=! ?+A1=&=-D=r@!!^0 . 2 (!I) (1#>7) 5 f (!)T37 . 1#>770 . 2412 . T









rB%8D, +>+\$8!+C! " DD#>#<7&/+-r!! ( (-O!^&lt;=-7&/+-7>! ?+-&lt;=%%!+C! " 11>/=O!B%8D, +>+\$8! J 8+&+!\*717-!  
rm, =!N==O!C+<7!N7&/+-7>!m7% dC+<D=+!-!N7&/H=! 6 =-&7>! \ =7>&, r@!! " --#7>! ?+-C=<=-D=!+C!&, =!N7&/H=!  
6 =-&7>! \ =7>&, ! " %%+D/7&/+-!m+<+-&+@!  
r^ -O/\$=-+##%! ?+\$- /&/+-P! " ! ?+-D=1&#7>! " -7>8%/!7-0!7-!3A1/<D7>!3k7A1>=r! ?+>>+g#=#!^&lt;=-7&/+-7>=!  
rM=%! I 7H+</%!E#&+&/O=-%P!M=%! " 11<+D, =%! ?+\$- /&/H=%!O7-%!>=! [ /7>+\$#=#!^&lt;=O%D/1>/-7/<=r!  
ID, ` =/a=</%D, =! " d70=A/=!O=<!Z=%&=# ` /%%=-%, 7C&=-! 6 =</-\$=-! I ` /&a=<7-0@!  
r ?<==! ?+-D=1&/+--%!+C! ?+\$- /&/H=! ?+A1=&=-D=r!X ` /&, !\*@ " @!2=- =&&Y@!!9)&, !^&lt;=-7&/+-7>! ?+-&lt;=%%!+C!&, =!  
^&lt;=-7&/+-7>! " %%+D/7&/+-!C+<! ?<+%%Q ?#>#<7>!B%8D, +>+\$8!N7<7!\*717-@!  
r ?+\$- /&/H=IC#-D&/+-/--\$!+C!2/<, +<7-0!K7<+!-! ? , />O<=-!/-!4=>7&/+-!&+!7DD#>#<7&/+-r@!!X ` /&, !4@?@! 6 /%, <7! e!  
[ @!I/- , 7Y@!!9)&, !^&lt;=-7&/+-7>! ?+-&lt;=%%!+C!&, =!^&lt;=-7&/+-7>! " %%+D/7&/+-!C+<! ?<+%%Q ?#>#<7>!  
B%8D, +>+\$8!N7<7!\*717-@!

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r " DD#>#<7&/H=I &lt;=%%!/ -!N+A70/D!7-0!I=0=-&7<8!m<V=%!+C!2/, 7<r!X ` /&, !4@?@! 6 /%, <7! e! [ @!I/- , 7Y@!!9)&, !  
^&lt;=-7&/+-7>! ?+-&lt;=%%!+C!&, =!^&lt;=-7&/+-7>! " %%+D/7&/+-!C+<! ?<+%%Q ?#>#<7>!B%8D, +>+\$8!N7<7!  
\*717-@!

r " DD#>#<7&/+-! " &&/&#O=%!+C!I+A=! ? , 7-\$- \$!m<V=%!/ -!^&lt;=O/7r!X ` /&, !4@?@! 6 /%, <7! e! [ @!I/- , 7Y@!!9)&, !  
^&lt;=-7&/+-7>! ?+-&lt;=%%!+C!&, =!^&lt;=-7&/+-7>! " %%+D/7&/+-!C+<! ?<+%%Q ?#>#<7>!B%8D, +>+\$8!N7<7!  
\*717-@!

rB%8D, +>+\$D7>! " O71&7&/+-!+C! ? , /-=%=!I+p+#<=<r!X ` /&, !j@!o , =-\$Y@!!9)&, !^&lt;=-7&/+-7>! ?+-&lt;=%%!+C!&, =!  
^&lt;=-7&/+-7>! " %%+D/7&/+-!C+<! ?<+%%Q ?#>#<7>!B%8D, +>+\$8!N7<7!\*717-@!

r " -!3k7A/-7&/+-!+C! ? B " !B+>/D=%!7-0! [ +D#A=-&%!C+<!&, =</" 11<+1</7&=-=%%!/ -! . +<d/- \$!/-!7!  
6 #>#<7>!7-0! 6 #>#<7D/7>!I+D/=8@!! ?7-70/7-!B%8D, +>+\$D7>! " %%+D/7&/+-! " --#7>! ?+-C=<=-D=!  
K&&7 ` 7!!!!

r ?<==! ?+-D=1&/+--%!+C! ?+\$- /&/H=! ?+A1=&=-D=r!X ` /&, !\*@ " @!2=- =&&Y@!! ?7-70/7-!B%8D, +>+\$D7>! " %%+D/7&/+-!  
" --#7>! ?+-C=<=-D=!'K&&7 ` 7!!!!

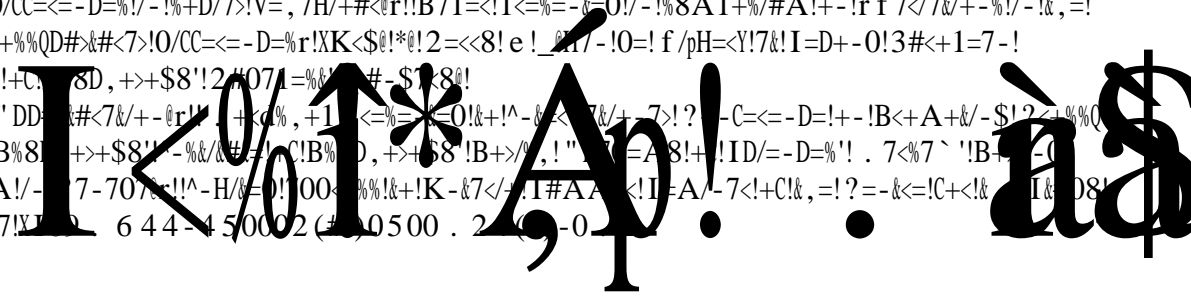
r^&lt;=\$<+#1! " &&/&#O=%P!I=>CQ3&==A!7-0!m, <=7&%!&+!^O=-&/&8r!X ` /&, !\*@! ?7A=<+-Y@!! ?7-70/7-!B%8D, +>+\$D7>!  
" %%+D/7&/+-! " --#7>! ?+-C=<=-D=!'K&&7 ` 7!!!!

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9: :9!

rm, =!/-C#=-D=!+C!D#>#<=+!-!V=, 7H/+>#<P!^A1>/D7&/+--%!C+<!7DD#>#<7&/+-!&&<7&=\$/=!/ -!7!A#>#<D#>#<7>!  
%+D/=8r@!!^&lt;=H/&=O!1>=-7<8!700<=%%!'\_+>#<00 . 241%+D/7&/+-!



r I + D / 7 > ! 7 - 0 ! 1 % 8 D , + > + \$ / D 7 > ! D + % & % ! 7 - 0 ! V = - = C / & % ! + C ! A # > & / D # > & # < 7 > / % A @ r ! ! B 7 1 = < ! 1 < = % = - & = 0 ! & + ! " - - # 7 > !  
? + - C = < = - D = ! + C ! ? 7 - 7 0 / 7 - ! B % 8 D , + > + \$ / D 7 > ! " % % + D / 7 & / + - ! ? 7 > \$ 7 < 8 @ !  
r " DD # > & # < 7 & / + - ! + C ! Z < = = d ! / A A / \$ < 7 - & % ! / - ! m + < + - & + @ r ! ! B + % & = < ! 7 & ! " - - # 7 > ! ? + - C = < = - D = ! + C ! ? 7 - 7 0 / 7 - !  
B % 8 D , + > + \$ / D 7 > ! " % % + D / 7 & / + - ! ? 7 > \$ 7 < 8 ! X ` / & , ! m @ ! " > A 8 < + # 0 / % Y @ !  
r " ! # - / H = < % 7 > / % & ! 7 1 1 < + 7 D , ! & + ! D < + % % Q D # > & # < 7 > ! 1 % 8 D , + > + \$ 8 @ r ! ! B 7 1 = < ! 1 < = % = - & = 0 ! & + ! ` + < d % , + 1 ! + - ! r m = 7 D , / - \$ !  
D < + % % Q D # > & # < 7 > ! 1 % 8 D , + > + \$ 8 @ r ! ! ? + - C = < = - D = ! + C ! ^ - & = < - 7 & / + - 7 > ! " % % + D / 7 & / + - ! C + < ! ? < + % % Q ? # > & # < 7 > !  
B % 8 D , + > + \$ 8 ! [ = V < = D = - ! \ # - \$ 7 < 8 @ !  
r " DD # > & # < 7 & / + - ! " & & / & # 0 = % ! 7 - 0 ! A = - & 7 > ! , = 7 > & , ! + C ! < = C # \$ = = % ! > / H / - \$ ! / - ! 7 ! A # > & / D # > & # < 7 > ! % + D / = & 8 @ r ! ! ? + - C = < = - D = ! + C !  
^ - & = < - 7 & / + - 7 > ! " % % + D / 7 & / + - ! C + < ! ? < + % % Q ? # > & # < 7 > ! B % 8 D , + > + \$ 8 ! [ = V < = D = - ! \ # - \$ 7 < 8 ! X ` / & , ! Z @ ! [ + - 7 Y @ !  
r G - 0 = < % & 7 - 0 / - \$ ! 7 - 0 ! A 7 - 7 \$ / - \$ ! D # > & # < 7 > ! < = > 7 & / + - % ! / - ! 1 # < 7 > ! % + D / = & / = % ! I + A = ! 1 + % % / V = ! / A 1 > D 7 & / + - ! + C !  
< = % = 7 < D , ! / - ! ? 7 - 7 0 7 @ r ! ! ^ - H / & = 0 ! 1 > = - 7 < 8 ! 7 0 0 < = % % ! & + ! I = D + - 0 ! 3 # < + 1 = 7 - ! ? + - \$ < = % % ! + C ! B % 8 D , + > + \$ 8 !  
2 # 0 7 1 = % & ! \ # - \$ 7 < 8 @ !  
r ? < + % % Q D # > & # < 7 > ! O / C C = < = - D = % ! / - ! % + D / 7 > ! V = , 7 H / + # < @ r ! ! B 7 1 = < ! 1 < = % = - & = 0 ! / - ! % 8 A 1 + % / # A ! + - ! r f 7 < 7 & / + - % ! / - ! & , = !  
% / a = ! + C ! D < + % % Q D # > & # < 7 > ! O / C C = < = - D = % r ! X K < \$ @ ! \* @ ! 2 = < < 8 ! e ! \_ @ 1 / - ! 0 = ! f / p H = < Y ! 7 & ! I = D + - 0 ! 3 # < + 1 = 7 - !  
? + - \$ < = % % ! + C ! B % 8 D , + > + \$ 8 ! 2 # 0 7 1 = % & ! \ # - \$ 7 < 8 @ !  
r B % 8 D , + > + \$ 8 ! + C ! " DD # > & # < 7 & / + - @ r ! ! ^ - & = < - 7 & / + - 7 > ! ? + - C = < = - D = ! + - ! B < + A + & / - \$ ! ? < + % % Q  
? # > & # < 7 > ! B % 8 D , + > + \$ 8 ! ^ - % & / & # = ! + C ! B % 8 D , + > + \$ 8 ! B + > / % , ! " 7 = A 8 ! + ! I D / = - D = % ! . 7 < % 7 ` ! B + > - C  
r 6 # > & / D # > & # < 7 > ! A ! / - ! 7 - 7 0 7 @ r ! ! ^ - H / & = 0 ! 1 0 0 < = % % ! & + ! K - & 7 < / + ! 1 # A A < ! I = A / - 7 < + C ! & , = ! ? = - & < = ! C + < ! & ! I & # D 8 !  
+ D 7 - 7 0 7 ! Y 7 0 0 0 6 4 4 = 4 5 0 0 0 2 ( # ) 0 5 0 0 . 2 ( # ) - 0





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r " -!3D+>+\$>D7>! " 11<+7D,!k+!3k,-/D!7-0! ?#>k#<7>!B%8D,+>+\$8r@!!^ -H/k=0!B>= -7<8! " 00<=%% !k+!9%&!M7k/-!  
" A=</D7-! ?+-\$<=%% !+C!^ " ? ?B'! 6=</07'! 6 =k/D+@!  
r " &&/k#0=%'!D<+87-D=%! =k!D+A1+<k=A=- &%!C7D=!7#k!,7-0/D71%r@!! " &=>=<!%#<!>7!4h7071k/+ -!z!27%=  
?+AA#-7#&7/<=!07-%>7!\_<7-D+1,+ -/=@!!G-/H=<%/k!0=! 6 +-<k7>@!  
rm,=!1%8D,+>+\$>D7>!7071k7k/+ -!+C!8+#-\$!\*7A7/D7-!/AA/\$<7- &%!/-! ?7-707r@!! " @! 6DJ=-a/=! e!\*@ . @!2=<<8!  
" - -#7>!D+ -H=-&/+ -!+C!k,=! ?7-70/7- !B%8D,+>+\$>D7>! " %%+D/7k/+ -!B=-&/Dk+ -'!2@ ?@!X1+%k=<Y!  
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b " DD#>#<7&/+-!&!7071&7&/+-!1%8D, +>+\$/g#>#<7&/+-!&=0!1>=-7<8!700<=%%'! f ^! ? +-\$<i%!<sup>^</sup>-&=<-7&/+-7>!0=>{ " %%+D/7&/+-!1+#<!>7!4=D, =<D, =!^&=<D#>#<=>=&! 6 +-&<=7>@!  
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X(Y!b " OH7-D=%!/-! " DD#>#<7&/+-!4=%=7<D, c!XI8A1+%/#A!D+Q+<\$7-/a=0!7-0!D+QD, 7/<=0!`/&, !?@! . 7<OY@!  
X;Y!b ?+A17<7&/H=!%&#08!+C!7DD#>#<7&/+-!+C!C+#!<\$<+#1!+C!%=D+-0!\$=-<7&/+-!8+#&, !/-! 6 +-&<=7>c!X`/&, !?@!  
I7V7&/=<Y@!  
XSY!b 6 7<\$/-7>/a7&/+-!7A+--\$! " V+</\$/-7>!B=+1>=%!/-!??7-707c!  
!XRY!b \ 7-0V++d!+C! ?<+%Q? #>#<7>!B%8D, +>+\$8P!4=C>=D&/+-!<C+>A!30&/-\$!&, =!I=D+-0!30&/+-c!  
XI8A1+%/#A!+<\$7-/a=0!7-0!D, 7/<=OY@!  
XOY!bG- /&8!7-0!0/H=<%/&8!/-!D<+%QD#>#<7>!1%8D, +>+\$8c!  
" V+H=!1<=%=-&=0!&+!o^^^!D+-\$<=%!+C!&, =!^&=<-7&/+-7>! " %%+D/7&/+-!C+<D<+%Q? #>#<7>!B%8D, +>+\$8!  
6 +-&<=7>!  
bB7<=-&%{!7-0!70+>=%D=-&%{!7DD#>#<7&/+-!7&&/&#0=%c!X`/&, !?@!I7V7&/=<Y!o^f! ? +-C=<=-D=!+C!&, =!  
^&=<-7&/+-7>!I+D/=&8!C+<I!&#08!+C!2=, 7H/+>#<7>! [ =H=>+1A=-&'!E#hV=D@!  
X9Y!b3D+>+\$8!D#>#<7>=!7-0!D+\$/-/&/H=!1<+D=%%/-\$c!X`/&, !\*@ " @!2=-=&&'!\*@B@! [ =-8! e !N@!m#<=<Y!  
X(Y!b ?<+%QD#>#<7>!, =7>&, !1%8D, +>+\$8c!  
X;Y!b4=>7&/+-%, /1!V=&`=-!#-A1>+8A=-&!7-0!1%8D, +>+\$/D7>!\`=>>QV=-\$c!X`/&, !j@! " 8D7-Y@!  
" V+H=!1<=%=-&=0!&+!o o f ^!^&=<-7&/+-7>! ? +-\$<=%!+C!B%8D, +>+\$8! 6 +-&<h7>@!  
b " V+</\$/-7>!D#>#<7>!/0=-&/&8c@!! ? +-C=<=-D=!+C!N7&/H=!B%8D, +>+\$/%&&!/-!??7-707!K&&7`7@!  
b ? +-D=1&#7>!7-0! 6 =7%#<=A=-&!^%#=#!/-! " DD#>#<7&/+-!4=%=7<D, c@!!N^ 6 \!m=D, -/D7>! " %%/&7-D=!  
. +<d%, +1!2=&, =07!GI " @!  
bG- /&8!7-0!0/H=<%/&8!/-!D<+%QD#>#<7>!1%8D, +>+\$8c@!!\_=%&&D, </C&!C+< \ 7<<8!m<7-0/%!'!G-/H=<%/&8!+C!^>/-+/%!  
GI " @!  
b ? #>#<=!V=, 7H/+>#<7-0!, =7>&, c@!!K=-!078!` +<d%, +1!1<=%=-&=0!7&! ? IBB'!I7-! [ /=>+!GI " @!  
b 6 #>#<D#>#<7>/%A!7-0!B%8D, +>+\$8P!3 -#-D/7&/-\$!&, =!D+--=D&/+-%c@!!K=-!078!` +<d%, +1!1<=%=-&=0!7&!  
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b\_<+A! 6 =>&/-\$!B+&!&+! ?#>&#<7>!B>#<7>/%AP!!^A1>/D7&/+-%!C+<!30#D7&/+ -!7-0!m<7/-/\$!+C! \ #A7-!I=<H/D=%!  
B<+C=%%/+ -7>%c'!!^ -H/&=0!B>=-7<8! " 00<=%% '!'\_7D#>&8!+C!I+D/7>! . +<d'! \ =V<= `!G- /H=<%/&8!+C!  
\*=<#%7>=A'!^%<7>=&!  
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! b^0=+>+\$8!7-0!& , =!%&#08!+C!/- &=<D#>&#<7>!<=>7&/+-%c@!  
! b "D,/=H/-\$!0/H=<%/&8!7-0!=g#/&8!/-!A/>/&7<8!/-%&/&#&/+-%c!X` /& , !4@! J7>/-Y@!  
! b " 071&7&/+ -!+C!m#<d% , !^AA/\$<7- &%!/-! ?7-707c!X` /& , !2@! " &7D7Y@!!!  
! " >>!&+!^ -&=<-7&/+ -7>! " D70=A8!+C!^ -&=<D#>&#<7>!4=>7&/+-%! ?+-C=<=-D='! J=-&'!GI " @!  
b " DD#>&#<7&/+ -!7-0!7071&7&/+ -!7A+- \$!%=D+-0!

27<+07'!^ -0/7@!

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^ -0/7@!

b?#>&#<=!7-0!\ =7>&,c'!^ -H/&=0!M=D&#<='!Z@2@!B7- &!^ -%/&#&=+C!I+D/7>!ID/=-D=%!&+! . +<d% ,+1!+C! ? " 43!7-0!  
" \$7!J ,7-!\_+#-07&/+ -!+ -! ?+AA#- /&8!27%=0! \ =7>& , '!" >>7,7V70'!^ -0/7@!

b" V+</\$/-7>! ?#>&#<7>!^0=- &/&8c'!^ -H/&=0!M=D&#<='! ?7-70/7-!I&#0/=%! [ =H=>+1A=-&!B<+\$<7AA=@!!27-7<7%!  
\ /-0#!G-/H=<%/&8'! f 7<7-7%/'!^ -0/7@!

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?+&#<='!I `=0% ,!ID, ++>!+C!3D+-+A/D%!7-0!2#%/-=%%!" 0A/-/%&7&/+ -!' \ =>%/-d/'!\_/->7-0@!

b^ -&=<D#>&#<7>!4=>7&/+-%c'!I ,+&! ?+&#<='!ID, ++>!+C! ?+AA#-/D7&/+-%'!G-/H=<%/&8!+C!\*8H7%d8>7'!\*8H7%d8>7'!  
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b^ -&=<-7&/+ -7>!I&#08!+C!3&, -+D#>&#<7>!5+&#&,c'! ?+<0/-7&+<!+C!4=%=7<D, !6 ==&/-\$!\_7D#>&8!+C!I+D/7>!  
ID/=-D=%'!G-/H=<%/&8!+C!M=0=- 'M=0=- '!m, =!N=&, =<7-0@!

^ -&=<-7&/+ -7>!I8A1+%/#A!+ -!3&, -/D!^0=- &/&8P!b?#>&#<7>!^0=- &/&8!/-! ?7-707c'!^ -H/&=0!1=7d=<'!\_7D#>&8!+C!  
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\*717-!' " --#7>! ?+-C=<=-D='!m+d8+'!\*717-@!

b 6 #>&#<7>!B+>D8!7-0!4=>7>/&8!/-! ?7-707c@!!^ -H/&=0!M=D&#<='!&+! ?7-707Q\*717-!I+D/=&8!7-0!^ -%/&#&=+C!  
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b 6 #>&#<7>!A!7-0!^ -&=<D#>&#<7>!4=>7&/+-%!/-! ?7-707c@!!^ -H/&=0!M=D&#<='!&+!\*717-=%%!" %%+D/7&/+ -!+C!  
?7-70/7-!I&#0/=%'!K%7d7'!\*717-@!

b3D+>+\$8'! ?#>&#<=!7-0! ?+\$- /&H=! " 071&7&/+ -c@!!^ -H/&=0!M=D&#<='!\_7D#>&8!+C!^ -&=\$<7&=0! \ #A7-!I&#0/=%'!  
J8+&+!G-/H=<%/&8'!J8+&+!'\*717-@!

b 6 #>&#<7>!A!7-0!^ -&=<D#>&#<7>!4=>7&/+-%!/-! ?7-707c@! ?+>>+g#/#A'!ID, ++>!+C!I+D/+>+\$8'!J `7-%=/'!  
Z7d#/-!G









b " DD#>#<7&/+ -!7-0!7071&7&/+ -!7A+- \$!/AA/\$<7- &!8+#&, c! ! ? +>>+g#/#A!1<=%- &=0!&+! [ =17<&A=- &!+C!!  
! B%8D, +>+\$8!G-/H=<%/&8!+C!Z/=%%=- '!Z=<A7-8!\*&#- =L!&!  
b " DD#>#<7&/+ -!7-0!7071&7&/+ -!7A+- \$! =&, -+D#>#<7>!\$<+#1%P! " -!/- &=<- 7&/+ -7>!1=<%1=D&/H=c!^ -H/&=0!  
>=D&#<=!1<=%- &=0!&+!D+-C=<=-D=!+ -!!  
! b 6 #>&/D#>#<7>/%Ac!2<+Dd!G-/H=<%/&8! ?7-707!\*&#- =!(S!&!  
b " DD#>#<7&/+ -!7-0!7071&7&/+ -!7A+- \$!/AA/\$<7- &!8+#&, c! !B71=<1<=%- &=0!&+!D+-C=<=-D=!+C! ?7-70/7-!!  
! 3&, -/D!I&#0/=%'K&&7 `7! ?7-707!KD&+V=<!9S!&!  
b " DD#>#<7&/+ -!7-0!7071&7&/+ -!7A+- \$!/AA/\$<7- &!8+#&, c! ! ? +>>+g#/#A!1<=%- &=0!&+!0=17<&A=- &!+C!!  
! B%8D, +>+\$8! \ 7A/>&+ -! ? +>>=\$=!GI " '!KD&+V=<! (R!&!

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b " DD#>#<7&/+ -!7-0! " 071&7&/+ -!+C!^AA/\$<7 -&%c!^ -H/&=0!>=D&#<=&+!^ -&=<-7&/+ -7>!D+ -C=<=-D=!+ -!  
!b ? , /-7&+ ` -% !7-0!2=8+-0c! f 7-D+#H=<! 6 78!

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b " !!G- /H=<%7>/%&!B=<%1=D&/H=!+ -!& , =! [ =D>7<7&/+ -!+C!3& , /D7>!B</-D/1>=%!C+<!B%8D , +>+\$/%&&c!B<=&=-&7&/+ -!&+!  
! ?B " ! " - -#7>!D+ -H=-&/+ -' ! 6 + -&=<7>!\*# - =!

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bm+ ` 7<0%!B+%/&/H=! . =>V=/\$!+C!^AA/\$<7 -&%!4=C#S==!7-0!^ -0/\$=-+#!B=+1>=%c!^ -H/&=0!>=D&#<=&+!  
! I+D/=070!^ -&=<7A=</D7-7!0=!B%/D+>+\$/7!Z#7&=A7>7!\*# - =!

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( )9)!

b " DD#>#<7&/+ -!7-0! . =>V=/\$c!B<=&=-&=0!&+! ?^ \_ " 4! ` +<d% , +1!E#=V=D! 6 78!

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b^ -&=\$<7&/+ -P! " !?+ -D=1&#7>! " -7>8%/&c!7-0!!!

bG<V7-! " V+</\$/-7>!1=+1>=%!I&#08!X ` /& , ! 6 @! " 07A%Y@!!

B71=<%!1<=&=-&=0!&+! ?B " ! " - -#7>!D+ -H=-&/+ -' ! . /- -/1=\$!\*# - =!

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b ? #>#<=&!/ -! ? + -&7D&c'!!

b " DD#>#<7&/+ -!7-0!^ -&=<D#>#<7>!4=>7&/+ -%c'!

bm , =!3D+D#>#<7>! " 11<+7D , !&+!& , =! ?<+%%Q ? #>#<7>!I&#08!+C!\_7A/>/= %c'!

b^ -&=\$<7&/+ -!7-0! 6 #>#<7>/%AP! " !?+ -D=1&#7>! " -7>8%/&c!!!!

!B71=<%!1<=&=-&=0!&+! " ? ?B! ? + - \$<=&%% ! 6 =>V+ #< - = !\*#>8!

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b ? #>#<7>!3 - \$7\$=A=-&!7-0! . =>V=/\$P!\_#<& , =<! " -7>8%=%!+C!& , =!G<V7-! " V+</\$/-7>!B=+1>=%!I&#08c!

? +>+g#/#A' [ =17<&A=-&!+C! " V+</\$/-7>! " CC7/<% ! ? 7 - V=<<7!\*#>8@! !

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b 6 #&#7>!^ -&=<D#>#<7>!4=>7&/+ -%!/ -!B>#<7>!I+D/=&/=%c'! ? +>+g#/#A'!G- /H=<%/&8!+C!N= ` !I+## , ! . 7>=%@!\*#>8!

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bm , =! " DD#>#<7&/+ -!7-0! " 071&7&/+ -!+C!I=D+ -0!Z=-<7&/+ -!^AA/\$<7 -&!5 +#& , !/ -!m+<+ -&+!7-0! 6 + -&=<7>c!

B71=<!1<=&=-&=0!V8!H/O=+D+ -C=<=-D=!&+!& , =!I/k& , !^ -&=<-7&/+ -7>!m7<&#? + -C=<=-D=!+ -! ? 7 - 70/7 - !I&#0/= %@!!

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!b^ -&=<D#>#<7>!4=>7&/+ -%!/ -!B>#<7>!I+D/=&/=%c'!7-0!!!^ -&=<D#>#<7>!

>!c^ -&=<D#>#<7>!4=>7&/+ -%!/ -!7!4#<7>! ? 7 - 70/7 - !B<7/</? !/&8c!X ` /& , !4@ ? @! " - -/%! e !4@!Z/V%+ -Y!

B71=<%!1<=&=-&=0!&+! 6 /n 6 y%! J + - C=<=-D/7!X . =nm , =A! ? + - C=<=-D=Y!3\$=<! \ # - \$7<8!KD&+V=<@!

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!b ? #>#<=&!7-0! ? + \$ - /&/+ - c'! ? +>+g#/#A'!B%8D , +>+\$8! [ =17<&A=-&!2=-7<=&%! \ /-0#!G- /H=<%/&8'

!!2<#%=%!" 1</>!

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()9;!

b " DD#>#<7&/+- '!^0=- &/&8!7-0! . =>V=- \$!7A+- \$!3& , - +D#>#<7>!5 +#& , c'!^ -H/&=0! J=8- +&=!&+!^ -&=<-7&/+-7>! I8A1+%/ #A!+-!" <7V!5+#&,'! . /-0%+<'!\*#-="!( )9;!

bm, =+<8!7-0! 6 =& , +0!/-! ?<+%%Q?#>#<7>!7-0!^ -&=<D#>#<7>!B%8D, +>+\$8c'!>=D&#<=!1<=%=- &=0!&+!^ -&=<-7&/+-7>! I8A1+%/ #A!+-!" <7V!5+#&,'! . /-0%+<'!\*#-="!( )9; @!

b " D, / =H/ - \$!7!\$>+V7>!1%8D, +>+\$8c'c'!171=<!1<=%=- &=0!&+ ' ?7-70/7- !B%8D, +>+\$ /D7>! " %%+D/7&/+- '!E#=V=D! ?/&8'!\*#-="!( )9;!

b4 =%=7<D, !+-! 6 #>#<7>/%A!/-! ?7-707c'!171=<!1<=%=- &=0!&+ ' ?7-70/7- !B%8D, +>+\$ /D7>! " %%+D/7&/+- '! E#=V=D! ?/&8'!\*#-="!( )9;!

b " DD#>#<7&/+- !B7%&'!1<=%=- &!7-0!C#&#<=c@!^ -H/&=0! J=8- +&=!^ -&=<-7&/+-7>! " D70=A8!C+<!^ -&=<D#>#<7>! 4 =%=7<D, !4=- +!'!\*#-="!( )9; @!

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2=<<8'!\*@ . @! e ! . 7<0'! ?@!! 6 #>&/D#>&#<7>/%A@!!B<=%=-&7&/+- !&+!&, =!^ - &lt;=-7&/+-7>! " D70=A8!+C!^ - &lt;D#>&#<7>! 4=%=7<D, !D+-C=<=-D='!2=<\$=- '!\*#- =@!

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2=<<8'!\*@ . @! 6 #&#7>!^ - &lt;D#>&#<7>!4=>7&/+- %!/- !B>#<7>!I+D/=&/=%@!^ - H/&=0!&7>d!&+!p+/- &lt;!D+-C=<=-D=!+C!!! &, =! " D70=A8!+C! 6 7-7\$=A=-&!7-0!&, =! "%/7-!" D70=A8!+C! 6 7-7\$=A=-&!+-!&, =!r 6 7-7\$=A=-&!7-0!&, =!

N= ` !!

[ =A+\$71, /DP!G->=7%, /-\$!&, =!3D+-+A/D!7-0!K<\$7-/a7&/+-7>B+&=-&/7>!+C! 6 /\$<7-&%'! [ /7%1+<7!7-0!7!! 2+#-07<8>=%%!. +<dC+<D=r@ f 7-D+#H=<!" #\$\$\$&&!

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2=<<8'!\*@ . @! ?+A17<7&/H=!7-7>8%/!+C! ?7-70/7-!A#>&/D#>&#<7>/%A!1+>/D8!7-0!&, =!A#>&/D#>&#<7>/%A!1+>/D/=%! +C!+&, =<!D+#- &lt;/=%@! \ I 3! " 1</>!D+-C=<=-D='! 6 +%D+ ` @!

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2=<<8'!\*@ . @!!^AA/\$<7-&!7DD#>&#<7&/+-7-0! ` =>V=/-\$! \ I 3! " 1</>!D+-C=<=-D='! 6 +%D+ ` !

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2=<<8'!\*@ . @! "D, /H/\$! ` =>V=/-\$!7-0!7!%=-%=!+C!V=>+- \$/\$!7A+- \$/AA/\$<7-&%'!^ - &lt;=-7&/+-7>!I=&&=A=-&! ?+-C=<=-D='!I=&&=A=-&! ?+#-D/>!+C! " #%&<7>/7! 6 =>V+#<-="! #%&<7>/7! 6 78@!

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2=<<8'!\*@ . @! e ! \ +#!\_@!^AA/\$<7-&!7DD#>&#<7&/+-7-0! ` =>V=/-\$! ?7-70/7-!B%8D, +>+\$D7>!" %&+D/7&/+-! ?+-C=<=-D='! f /D&+</7! ?7-707@!\*#- =@!

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2=<<8'!\*@ . @! 6 #&#7>!7DD+AA+07&/+-P!m, =!V7%/!C+<1+%&/H=!/- &lt;D#>&#<7>!<=>7&/+- %@!^ - &lt;=-7&/+-7>! ?+- \$<=%%! +C!B%8D, +>+\$8!5+d+, 7A7!\*717- '!\*#>8@!

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2=<<8'!\*@ . @!^ - &lt;D#>&#<7>!4=>7&/+- %!/- !1>#<7>!%+D/=&/=%@!^ " ? ?B! ?+-C=<=-D='!N7\$+87!\*717- '!\*#>8@!

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!!!!!!!!!!G J @!!I=1k=AV=<@!

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2=<<8'!\*@ . @! \ + ` !I , 7>>! . =! " >>M/H=!m+\$=k , =<v!^ -H/k=O!>=D&#<=@!I+#k , =7%&! " %/7!4=\$/+ -7>! ?+ -C=<=-D=!+C!!!  
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!!!!!!!! " %%+D/7&/+ - !+C! " 11>/=O!B%8D , +>+\$8'! 6 + - k=<=7>!\*# - =!

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2=<<8!\*@ . @@ ?<+%Q?#&#<7>B%8D,+>+\$8P!m,!=7<8!078%!" ? ?B! ?+-C=<=-D=!!

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2=<<8!\*@ . @@ I&+\$7--/'! 6!e !M=C</-\$,7#%=-'!J@ 6 #>&/D#>&#<7>!^0=+>+\$8P!K</\$/-#!7-0!3H+>#&/+>!

!!!!!!!I8A1+%/#A!+-!b4=H%/+>+!+C!&,=! 6 #>&/D#>&#<7>!^0=+>+\$8!ID7>=c!" ^4! ?+-C=<=-D=!XH/<#7>Y! !

2=<<8!\*@ . !^&=\$<7&/+>!\ 81+&,=%/P!K</\$/-#!7-0!3H/0=-D=I8A1+%/#A!+-!b . ,7&!/%!&,=!<+>=!+C!!

!!!!!!!7DD#>&#<7&/+>+!C+<!7071&7&/+>-v! 6 =&7Q1=<%1=D&/H=%!+-!+>0!7-0!-= ` !g#=%&/+>-%'!7-0!7>&=<-7&/H=!

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