

"\$ %&'(!)&*!+,), !-./)*0)'/1!-/2'03!/4!56, 1)!70&/2(!%.8()!9:)&*!%.8(); <\$!

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#\$ =*!, .*!0/> >')*?)!/@./0*(('1A!-*. (/1, 2!B14/. >,)')/1!4, '.23!, 1?!2, C48223!'1!, 00/.?, 10*!C')&!)&*!DE!F*1*. , 2!+,), !-./)*0)'/1!G*A82,)'/1!9)&*!. *), '1*?!HD!2, C!6*. ('/1!/4!)&*!F*1*. , 2!+,), ! -./)*0)'/1!G*A82,)'/1!9HD<!#I "JKLM<9: F+-G;<!!&*!+,), !-./)*0)'/1!50)!#I "0!9:)&*!+-5;<! , 1?! /)&*!.! *2,)*?!2*A'(2,)'/1!C&'0&!@./)*0) (!-*. (/1, 2!B14/. >,)')/1!\$!B)!'(!1*0*((. 3!4/.!)&*!%.8()!)/! @./0*((! -*. (/1, 2! B14/. >,)')/1! , P/8)! '(! () , 44!! @8@'2(!! @, .*1)9(<! K! A8, .?', 19(<! , 1?! /)&*!.! '1?'6'?8, 2(!C&'!)>, 3!0/>*!1)/!0/1, 0)!C')&\$!B1!?'/'1A!(/!!C*!. *0/A1'(*!&,)!)&*!0/.. *0)! , 1?! 2, C482!.* ,)>*1)!/4! -*. (/1, 2!B14/. >,)')/1!'(!0.')'0, 2!)/!>, '1), '1'1A!)&*!0/14?'*10*!/4!)&/(*! 0/11*0)*?!C')&!&*!%.8()\$!

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Q\$ %&'(!-/2'03!! , 1?! , 13!/) &*!.!?'08>*1) (!.*4*..*?)!/!'1!)!!(*) (!/8)!/8.!, @@./, 0&!)/! *1(8.'1A!)&,)! C*!0/>@23!C')&!?',)!@./)*0)'/1!2, C(\$!B)!, R*(!, 00/81)!/4!)&*!'>@/., 1)!.*S8'. * >*1) (!/4!)&*! F+-G!, 1?!+-5\$!

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T\$ %&'(!-/2'03!, @@2*(!)/!)&*!%.8()!, 1?!') (!0&/2(\$!7), 44!C'2!P*!. *S8'. *?)!/0/14'. >!)&,)!)&*3!&, 6*! .* , ?!, 1?!81?* . (//?!)&*!-/2'03\$!52!*>@2/3** (!>8)0/>@23!C')&!/8.l@/2'0*(!, 1?!@./0*?8. *(! . *2,)'1A!)/!?',)!@./)*0)'/1!\$!%&'(!-/2'03!?'/*(!1!)/!4/. >!@, .) !/4!, 13! *>@2/3**U(!0/1). , 0)!/4! * >@2/3>*1)! , 1?!>, 3!P*!, >*1?'*?!,)!, 13!)' >*\$!!

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97< 5008.,)*!, 1?IC&*. *!1*0*((, .3!R*@)I8@!)/!?,)*!9 _____<!
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9*< Z/)R*@)! '1!, !4/.>!C&'0&!@*.>')(!?'*1)'4'0,)' /1!/4!+,), !78PV*0)(!4/.!2/1A* .!)&, 1!'(!
1*0*((, .3!4/.!)&*!@8.@/(*(!4/.!C&'0&!)&*!?,), !'(!-. /0*((?'!9 _____<!
!
94< -. /0*((?'! '1!, !>, 11* .!)&,)! *1(8. *(! ')(! (*08. '!)3! 8('1A!, @@./@. ',)*)! *0&1'0, 2!, 1?!
/.A, 1'(.)' /1, 2!>*, (8. *(!) /!@./)*0)! , A, '1()!81, 8)&/.('?! / .!812, C482!-. /0*(('1A!, 1?!
, A, '1()! ,00?'*1), 2! 2/((!! ?*(.80)'/1! /! ? , >, A*! 9 _____
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L\$ = *!, . *!, 2(/! . *(@/1('P2*!4/.!! , 1?! . *S8'. *?!)/!?'> /1() . ,) *!! /8. !0 />@2', 10*!C')&!&*!F+-G!
9 _____<!
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O\$ %&*!%.8()!_/, .?!&, (!/6* ., 2! . *(@/1('P2')3!4/.!?,), !@./)*0)'/1!, 1?!'14/.>,)'/1!A/6* .1, 10*\$!
+ *0('/1^>, R*. (!, . *! *W@*0)*?!)/!2*, ?!P3! *W, >@2*!, 1?!@./> /)*!, !@./, 0)'6*!! @/(')6*!?,), !
@./)*0)'/1!082)8. *\$!!

!
M\$ %&*!%.8()!&, (!, !02*, .!/.A, 1'(.)' /1, 2!().80)8. *!C')&!02*, .! . *@./.)'1A!2'1*(!, 1?!'14/.>,)'/1!42/C(!
P*)C**1!. *2*6, 1)!A. /8@(!C&'0&!('!*)/8)! '1!5@@*1?'W!5\$!

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" I \$ H, 0&!%.8()!(0&/ /2!, 1?!K! / .!(8P('?', .3!C'2!&, 6*!, !1 />'1,) *?2* , ?!,)!, !2/0, 2!2*6*2!)/! *1(8. *!)&,)!
, !(). /1A!?,), !@./)*0)'/1!082)8. *!'(!*(), P2'(&*?!, 0./((!)&*!%.8()\$!

!
""\$ %&*!- /2'03!C'2!P*!. *6'*C*?!, 1?!8@?,) *?'!1!, 00/.? , 10*!C')&!?/08>*1)*?!. *6'*C!?,)*(!!)&/8A&!
)&*!%.8()! . *(*. 6*(!)&*!. 'A&!)/!8@?,) *!)&'(!@/2'03!,)!, 13!)>*!C&*. *!')!(!>/. *!'>>*?',) *23!
1*0*((, .3!)/! ? /! (/! *\$A\$! P*0, 8(*! /4! /@* . ,)' /1, 2! 0&, 1A*(!! 0/8.)! / .! . *A82,) / .3! ?*0'(/1(!! / .!
0&, 1A*(!'1!. *A82,) / .3!A8'? , 10*\$!



"#\$ %&*!F+-G!. *S8'.*(!0*.), '1!/.A, 1'(,)' /1(!!'1028?'1A!)&*!%.8(!!)/!, @@/'1)!, !\+,), !-./)*0)'/1!
` 44'0*.!!9: +- ` ;<!%&*!+- ` !>8(!&, 6*!*W@*.)!R1/C2*?A*!'1!?,), !@./)*0)'/1!2, C!, 1?!@., 0)'0*(\$!
` 8.!, @@/'1)*?!+- ` !C&/!4824'2(!)&*(*!. *S8'. * >*1)('!(ab!H?80,)' /1!!C&/!0, 1!P*!0/1), 0)*?!P3!
) *2*@&/1*!/1!! "J"!VTQ!000T!/.!* >, '2!,)!+- ` cC*, . * &3\$0/>!!!



9* < @./6?'1A!, @@./@.' ,)*)!. , '1'1A!,)!. *A82, .!'1)*.6, 2(\$!

94< '>@2* >*1)'1A! @.'6, 03! P3! ?*(A1! C&*1! -. /0*(('1A! -*. (/1, 2! B14/.>,)'/1! , 1?!
0/>@2*)'1A!?,), !@./)*0)'1!'>@, 0)!, ((*((>*1)!(C&*.*!-. /0*(('1A!@.*(*1)!(, !&'A&!
. '(R!)/!)&*!. 'A&)(!, 1?!4. **?/>(!/4!+,), !78P!*0)(\$!

"J\$ %&*1%.8()!C'2! &, 6*'1!@2, 0*!, !+,), !-./)*0)'1!/6*. ('A&)!A./8@!0/1(')'1A! /4!)&*!+-` !, 1?!
>* >P*. (!/4!)&*!%.8()!C&/!&, 6*'R*3!?,), !@./)*0)'1!?'8)*(\$!%&*!`6*. ('A&)!F./8@!C'2!P*!
0&, '.*?!P3!)&*!+-` !

!
"L\$ %&*!@8.@/(*/4!)&*!`6*. ('A&)!F./8@!'(!)/! >/1')/!0/>@2', 10*!C')&!)&*!DE!F+-G\$!%&*!
`6*. ('A&)!F./8@!C'2! , 0&*6*!)&!(P3! , ((*(('1A!')(!0/>@2', 10*!(),)8(!, A, '1()!)&*!B[`U(!
500/81), P'2)3!%, 0R*.\$!e'18)*(!C'2!P*!R*@)/4!* , 0&!>**)1A\$!

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"0\$ %&*1%.8()!C'2!'>@2* >*1)! , !02*, .!@/2'03!4. , >*C/.R!C&'0&!@./6'?*(!(), 44!C')&! (844'0'*1)!
'?'*0)'1!)/! 81?*.(), 1?!)&*!.!./2*(!, 1?!.*(@/1('P'2)')*(! .*A, .?'1A!?,), !@./)*0)'1! , 1?!
'14/.>,)'/1!A/6*.1, 10*\$!`8.!@/2'03!4. , >*C/.R!C'2!()*>!4./>!().)*A'0!@2, 11'1A!(/!)&,)!')!
(8@@/.)(!)&*!%.8()U(!/P!*0)'6*!/4!0.* ,)'1A!, !()./1A!?,), !@./)*0)'1!082)8.*\$!%&*!%.8()!P/, .?!
&, (!, @@./6*?!, 1?!*1?/.(*?)&*!-/2'03!4, 1?!)&*!4/2/C'1A!@/2'0'*(!, 1?!@./0*?8.*(!^!

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9, < +,), !_.* , 0&!-. /0*?8.*(!!
9P< 500*((!-. /0*?8.*(!
90< G*0/.?(!e, 1, A* >*1)!
9?< + -B5U(!

!
"M\$ %&*(*!@/2'0'*(!, 1?!@./0*?8.*(!C'2!P*!*6'*C*?!, 1?! , @@./6*?!, (!@, .)/4!)&*!@./0*((!/8)2'1*?!
,)!@, ., A., @&!" "\$!!

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#I\$ %&*!+-`!C'2!@./6'?*!)&*!%.8(!C')&! ,@@./@.' ,*)!. , '1'1A!C&'0&!C'2!P*!./2*?!(/8!)/!, 2!(), 44\$!
%&'(!C'2!P*!@./6'?*?!)&./8A&!&*!+-`U(!ab'1V'6*!?, , !@./)*0)'/1!(*.'*(!C&'0&!@./6'?*!(/*0)/!
(@*0'4'0!0/1)*1)\$!%&*!ab'1V'6*!(*.'*(!@./6'?*(!)C/!2*6*2(!/4!). , '1'1A!

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9, < 5!0/>@.*&*1('6*!2*6*2!/4!). , '1'1A!4/.! , 2!(), 44!'1R*3! , . * , (!/4!?, , !@./)*0)'/1\$!52!(), 44!
C'2!P*!*W@*0)*?)/!81?* . , R*!)&'(!) . , '1'1A\$!

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9P< 5!1, ??)' /1, 2!(@*0', 2'(*?!2*6*2!/4!). , '1'1A!4/.!(), 44!'1!>/. *!(@*0', 2'(*?!./2*(!/!.!./2*(!
C&'0&!.*S8'. *!, !>/. *!, ?6, 10*?2*6*2!/4!?, , !@./)*0)'/1!R1/C2*?A*!, 1?!, C, . *1*((!

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#"\$ %&*! +-`!C'2!P*!.*(@/1('P2!4/.!R**@'1A!). , '1'1A!@./6'('/!181?*!. *6'*C\$!%&*!%.8()!!'1!
, @./6'1A!)&'(!@/2'03!! , 2(/!, @./6*(!)&*!08.. *1)!. , '1'1A!@./6'('/!1\$!

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##\$ 52!(), 44!, . *!. *S8'. *?)/!81?* . , R*!). , '1'1A!, (!@, .)/4!)&*!'1?80)'/1!@./0*((!C')&'1!'!>/1)&/4!
)&*'.!(), .)!?,)*\$!HW()'1A!(), 44!C'2!P*!. *S8'. *?)/!81?* . , R*!. *4. *(&*!.!). , '1'1A!/10*!6*.3!)C/
3* , .(!812*(!?'*0)*?)/&*.C'(*\$!G*0/.?(!C'2!P*!>, '1), '1*?)/! *6'?*10*!)&,)!(), 44! &, 6*!
. *0*6*?!. , '1'1A!'1!, 00/.? , 10*!C')&!)&*!-/2'03\$!

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#Q\$ 7), 44!, . *!, P2*!, 1?!*10/8., A*?)/!(&, . *!, 134**?P, 0R!/.!?'* , (!C&'0&!)&*34**2!*1&, 10*!). , '1'1A!
@./6'('/!1, 0./((!)&*!%.8()\$!%&*!+-`!0, 1!P*!0/1), 0)*?!'?'*0)23!P3!*>, '2!4/.!)&'(!@8.@/(*!,)!
[+-`cC*, . *&3\\$0/>!\\$!](#)

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#T\$ B1!, ??)' /1!)/!. , '1'1A!C*!C'2!8(*!, !., 1A*!/4!. *(/8.0*(!)/!. , '(*!, C, . *1*((!/4!?, , !@./)*0)'/1!
. *S8'. *>*1)(\$!

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#J\$ = *!C'2l@./6'?*!@.'6,03!'14/.>,)' /1!'1!, !C, 3!C&'0&! '(! *44*0)'6*\$!%&'(! >*, 1(!)&,)! C*!C'2l
@./,0)'6*23!8P2'(&!@.'6,03!'14/.>,)' /1!'1!, !C, 3!C&'0&'(4. **!, 1?!* , (3!)/!,00* ((\$B1!)&'(!.*A, .?M
@.'6,03!'14/.>,)' /1!'C'2lP*!>, ?*!, 6, '2, P2*!P/) &! /1! /8. !C*P(*)*!, 1?!P*!, 6, '2, P2*!'1!&, .? !0/@3!
/1!. *S8*()\$! = *!C'2l*1(8.*!)&,)!@.'6,03!'14/.>,)' /1!'(!(*)! /8)! '1!, !C, 3!C&'0&'(!02* , .!, 1?!'1!
@2, '1!2, 1A8, A*!(/!)&,)!&,)!&'(!0, 1!P*!* , ('23!81?*.)//? \$!

!

#L\$ = *!C'2l@./6'?*!@.'6,03!'14/.>,)' /1!'1!, !)' >*23!>, 11*.M(/!)&,)!)'(!, 2C, 3(!, 6, '2, P2*!) /!)& /(*!
C&/!C*!@./0* ((!-*. (/1, 2!B14/.>,)' /1!, P/8)\$!

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!

#O\$ %&*!%.8()!C'2l81?*.), R*!'14/.>,)' /1!, 8?) (!) /! *1(8.*!)&,)!)&, (!, 1!, 008.,) *!81?*.(), 1?'1A!
/4!?,), !42/C(\$!%&'(!'14/.>,)' /1!'C'2lP*!. *0/.? *?'!1!)&*!%.8()U(!5.)'02*!QI !G*0/.? /4!-. /0* ('1A!
50)'6)'* (!9G` -5<!C&'0&!C'2l, 2C, 3(!P*!>, '1), '1*?'!1!*2*0). /1'0!4/.>,)\$!



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9, <), R*!() * @ (!) / ! * 1 (8. *!) & ,) ! C * ! > , R * ! ') ! 0 2 * , . !) / ! + ,) , ! 7 8 P Y * 0) (! C & ,) !) & * 3 ! , . * ! P * * ' 1 A ! , (R * ? !) / ! 0 / 1 (* 1) !) / \$! !

9 P < * 1 (8. * !) & ,) !) & * ! + ,) , ! 7 8 P Y * 0) ! ! * ') & * . ! P 3 ! , ! () ,) * > * 1) ! / . ! @ / (') ' 6 * ! , 0) ' / 1 ! ! A ' 6 * (!) & * ' . ! 0 / 1 (* 1) \$! = * ! C ' 2 ! 1 * 6 * . ! , ((8 > * !) & ,) ! 0 / 1 (* 1) ! & , (! P * * 1 ! A ' 6 * 1 ! (' > @ 2 3 ! P * 0 , 8 (* ! , ! + ,) , ! 7 8 P Y * 0) ! & , (! 1 /) ! . * (@ / 1 ? * ? !) / ! , ! . * S 8 * () ! 4 / . ! 0 / 1 (* 1) \$! ! !

9 0 < 1 * 6 * . ! 8 (* ! @ . * ^) ' O R * ? ! P / W * (! , (! , ! > * , 1 (! / 4 ! / P) , ' 1 ' 1 A ! 0 / 1 (* 1) \$!

9 ? < * 1 (8. * !) & ,) ! , ! + ,) , ! 7 8 P Y * 0) ! (! ' 1 4 / . > * ? !) & ,) !) & * 3 ! 0 , 1 ! C ') & ? . , C !) & * ' . ! 0 / 1 (* 1) ! ,) ! , 1 3 !) ' > * ! , 1 ? !) & * ! > * , 1 (! / 4 ! ? / ' 1 A ! (/ \$!

9 * < R * * @ ! , @ @ . / @ . ' ,) * ! . * 0 / . ? (! * 6 ' ? * 1 0 ' 1 A !) & * ! 0 / 1 (* 1) (! C * ! & / 2 ? \$

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Q Q \$ = * ! C ' 2 ! ' > @ 2 * > * 1) ! , @ @ . / @ . ' ,) * !) * 0 & 1 ' 0 , 2 ! , 1 ? ! / . A , 1 ' (,) ' / 1 , 2 ! > * , (8 . * (!) / ! A 8 , . ? ! , A , ' 1 () ! 8 1 , 8) & / . ' (* ? ! / . ! 8 1 2 , C 4 8 2 ! - . / 0 * ((' 1 A ! ! , 1 ? ! , A , ' 1 () ! , 0 0 ' ? * 1) , 2 1 2 / ((! ! ? * () . 8 0) / 1 ! / . ! ? , > , A * \$!

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Q T \$ = * ! C ' 2 ! ? * 6 * 2 / @ ! ! ' > @ 2 * > * 1) ! , 1 ? ! > , ' 1) , ' 1 ! (, 4 * A 8 , . ? (! , @ @ . / @ . ' ,) * !) / ! / 8 . ! (' f * ! ! (0 / @ * ! ! / 8 . ! , 6 , ' 2 , P 2 * ! . * (/ 8 . 0 * (! , 1 ? !) & * ! 2 * 6 * 2 ! / 4 ! . ' (R ! ' ? * 1) ' 4 ' * ? \$! !

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Q V \$ = * ! . * (* . 6 * !) & * ! . ' A &) !) / ! 0 & , 1 A * !) & ' (! @ / 2 ' 0 3 ! ,) ! , 1 3 !) ' > * ! , 1 ? ! 1 /) ' 4 ' 0 ,) ' / 1 ! / 4 ! , 1 3 ! 0 & , 1 A * (! C ' 2 ! P * ! 0 / > > 8 1 ' 0 ,) * ? ! , 0 0 / . ? ' 1 A 2 3 \$! !

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