8J#8%&F84)2:* '%"G#*A("387*

1 @*3()4%/*3:(>&'&%/&28''&2:(73%*234:(.'#<48#3(A(**B**#"&2(CDEFGH* <"47G<)87* 2* 4"4%247" F&M87* <"4)%":*)%&2:* 3 &) (*#2)&84)A* 3 (''* (27*2* I %2GF2)&<* T%2&4* S4]G%\$* $0ITSR^*$ "%* P#(2A&26* [@8%\$*a)(*#2%)&<)* 3 2A*2AA& '487*)"*)(8*<"4)%":*'%"G#0*%8AG:)&4'*&4*2*<"4)%":*'%"G#*"B*/* &47&@&7G2:A0* 247* 24* 8J#8%&F84)2:* '%"G#* 3&)(* X,6* >2%)&<)A* <" F#:8)87* . -* 388QA* "B*)(8%2#\$* "4* 24* &>27*GA&4 '*)(8* ! "4A)24)* I (8%2#\$*&D;*#:2)B"% F6* I (8%8* 38%8*Vb*(&8%2%<(&<2:*)(8%2#\$*)2AQA*)2%'8)&4'*:24'G2'8* "%* <" '4&)&@8* 7&BB&<G:)&8A6* P::* #2%)&<)A* 38%8* 2##% "#%&2)8:\$* 2AA& '487*)2AQA* L2A87* "4*) (8&%* 2L&:&)&8A* 247* 2))84787* . -* 388Q:\$* 2AA&A)87* A8AA&"4A0* 3 (8%8* 2* <:&4&<&24*<"4)%"::87*)(8*B:"3*"B*8@84)A*247*#%"@&787* B887L2<Q6* I (8* 8J#8%&F84)2:* '%"G#* (27* 277&)&"42:* A<(87G:87*A8AA&"4A*3(8%8*)(8\$*<"F#:8)87*("F83"%Q*)(2)* 3 2A* 2AA& '487*L\$*)(8*<:&4&<&24*GA&4 '*)(8*2##0*LG)*)(8\$*7&7*A"*G42AA&A)87N*)(8*:8@8:* "B*("F83"%Q*32A* 78)8%F&487*L2A87*"4*)(8*#2%)&<)Ac*#8%B"%F24<8*&4*)(8* A8AA&"46* I (8* <: &4& <& 24* 3 2A* 2L:8*)"* F "4&)"%* 247* 27]GA)*)(8%2#\$*("F83"%Q*%8F")8:\$*2A*4887876*I(8*

3 (84*GA&4 '*) (8A8*78A& '4A6*

\ "4%247" F&M87*<"4)%":*)%&2:A*2AA& '4*'% "G#A*"B*#8"#:8*)"*7&BB8%84)*&4)8%@84)&"4A*GA&4'*F8)("7A*)(2)*2%8*4")* %247" F6* I (8\$*<24*L8*@2:G2L:8*B"%*8@2:G2)&4 '*%8:2)&@8* $8BB8 < (8484 + 10^{10}) \times (848 + 268) \times (8$ $4"4\%247"F0^*$) (8* <\%87&L&:&) \$* & A* 38208\%) (GA0* %8A82%<(8%A* A("G:7* 7"<GF84)* <&%<GFA)24<8A* <:82%:\$* $\begin{array}{c} \underline{12A8^*;8\%\&8A^*H8A\&'4^*} \\ \underline{12A8^* \ A8\%\&8A^* \ B''::'' \ 3^* \ FG:)\&\#:8^* \ \#8''\#:8^* \)(\%''G'(\ 2^* \ \#2\%)\&< G:2\%^* \#8\%\&''7^* ''\%^*)\%82) \ F84)6^* \ I(\ 8\$^*<\!\!24^*L8^* @2:G2L:8^* \end{array}$

#%"'%2FA* F"@&4'* B"%32%70* &)* F2\$* L8* YG8A)&"487* 3 (8)(8%*)(&A*&A*)%G:\$*2*A8:BK78:&@8%87*)(8%2#\$6* *

A&'4&B&<24)* &F#%"@8F84)A* B%"F*)(8%2#\$6* I(8A8* B&47&4'A* AG''8A)*)(&A* F2\$* L8* 2* F"%8* 2##%"#%&2)8* I (&A*#2#8%*2&F87*)"*

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5*2)(22*&#! *

P:)"'8)(8%0*)(8A8* B&47&4'A* #%"@&78* AG''8A)&@8* 8@&784<8*B''%*)(8*GA8*''B*A8:BK78:&@8%870*)2L:8)KL2A87*)(8%2#\$*B''%*)(8*)&82)F84)*''B*2#(2A&26* *

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