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- JKLJPL]& +3\$356<@&)98\$"B%58%&%9&!\$4;65D&,8<&23B;8d"388\$>B=58;5&98&&@3;6&\$%"C>&9:& [)@9;<3&9:&W98P23B;8d"38%&58C&23B;8d"38%&)56336\$&5798#&1"36%9& +;<58&o9"%@[&:96&&@3&W5%;985B&,8\$%;%"%3&9:&b"=38;B3&b"\$%;<3&58C&&@3&-5M& 18:96<3738%&!\$\$;\$%58<3&!C7;8;\$%65%;98B&

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- ?34&'(J]&s23\$;#8&9:&5&)977"8;<5%;98&I69<3\$\$&:96&23\$;#8&Q9:&5&&,C35&g983Rt&Q<9P 5"%@963CD&M;%@&O65=;\$&O@974\$98&&I5436&463\$38%3C&5&&)98:3638<3&98& ?>\$%37;<&23\$;#8&;8&O58::D&!BS36%5&&H&!%&%@3&A698%;36&&9:&?>\$%37;<&23\$;#8& +?2&i&+3B5%;8#&?>\$%37\$&O@;8X;8#&58C&23\$;#8&YH&I5436&M5&&463\$38%3C&S>& O65=;\$&O@974\$98D&5&&,&M5&&"85SB3&%9&5%%38CH&

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 $\begin{array}{l} \mathbb{V}_{k} & (JY\& 1 < 9B9\#; <5B\&, C38\&; \&; 3\&58C\& 2; B3775\& 9:\& ! < 3B365\& 3C\&) @58\#3B\& 163\&38\& 3C\&5\& \\ & <98:3638 < 3D\&, C38\&; \&>\&58C\& ! < 3B365\& 3C\&) @58\#3B\&) 98:3638 < 3\&\$498\& 963C\& S \& \\ & \mathbb{V}=36@35\&; & \mathbb{H}\& 169`3 < \&58C\& 234\& B9\& 234\& 9:\& ?9<; 5B\& ! & \&6949B9\#>D\& *8; =36\&; &>\&9:\& \\ & \mathbb{V}\& B9D\& - >\& 3S''\&) & 3B\& 36D\& \mathbb{V}\& B9D\& W96M5>D\& \\ \end{array}$

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$$\begin{split} & \texttt{W9=\&'(JE\&(M;\&\&2969\&@>\&! ##36PZ"4\&5\&58C\&W;3B\&\&! ##36PZ"4\&5Rh\&O@3\&''\&3\&9:\&\&@3\& \\ & \texttt{96BC\&)5:e\&;8\&!<\&;98\&+3\&356<@\&169#657\&D&;8\&)585C5D\&W96M5>\&58C\&\&@3\& \\ & *&8;\&3C\&?\&5\&3\&\&!<& \texttt{96X\&@94\&9::363C\&5\&\&)!+W\&Q)9B5S965\&;=3\&!<\&;98\& \\ & +&3\&356<@\&W3\&M96XR\&<98:3638<3D\&s?\&5>;8#\&<6;&;<5Bc\&W"6\&''6;8#(C379<65&;<& 456\&836\&@;4\&;8\&5<&;98\&63&356<@Ht&O697\&M296M5>h& \end{split}$$

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. 5>&' ((F& I5436&463\$38%5%;98&QM;%@&b9@&& \ ;BB>&O5XX3RH&23\$;#8;8#&\$45<3\$&:96& X89MB3C#3&<635%;98H&! %&588"5B&<98:3638<3&9:&18=;698738%5B&23\$;#8& +3\$356<@&! \$\$9<;5%;98&\$43<;5B&\$3\$\$;98D&A9\$%36;8#&5& \ 96X4B5<3& 18=;698738%W3%M96XH&! %B58%5H&

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- b"8&'((]& ^3>89%3&463\$38%5%;98c&I5%@\$&:96&)@58#3&58C&?%5S;B;%>&;8&58&1<9B9#>&9:& ,C35\$H&!%&<98:3638<3D&A657375X36\$c&)@9639#654@>&5\$&58&!3\$%@3%;<&9:&)@58#3H&-;736;<XD&,63B58CH&

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W9=&'((Y& s23\$;#8&:96&58&3<9B9#>&9:&;C35\$c&)977"8;%>D&\$<;38<3&58C& C3"%369B3568;8#tH&I5436&463\$38%3C&98&:35%"63C&4583BD&V8<3&58C&A"%"63& 0@396>c&W3U%&\$%34\$&%9M56C\$&Z63#96>&O5%3\$98u&&1<9B9#>&9:&.;8CH&!%& 588"5B&<98:3638<3&9:&!736;<58&!8%@6949B9#>&!\$\$9<;5%;98D&?58& A658<;\$<9H&2"3&%9&@9%3B&M96X36&u&\$%6;X3D&@3&75`96;%>&9:&%@3&<98:3638<3& M5\$&49\$%4983C&%9&!%B58%5&;8&23<37S36&00M3=36&%@3&43<;5B&\$3\$\$;98\$& 96#58;_3C&569"&C&&@3&B3#5<>&9:&Z63#96>&O5%3\$98D&%@5%&M363&%9&S3&456%& 9:&&@3&<98:3638<3D&M363&@3BC&5&&&05%3\$98D&%@5%&M363&%9&S3&456%& 9:&&@3&<28:3638<3D&M363&&@3BC&5&&&&05%3\$98D&&05%&3\$98&&)38%388;5B& ?3\$\$98\$t&5%&&&@3&*8;=36\$;%>&9:&)5B;:968;5P&&O36X3B3>RH&

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b58& '(((& [W3<3\$; N>&58C&038\$; 98&; 8&+3:B3U; =3&+3\$356<@H[&163\$38%5%; 98&98&4583BD&+3:B3U; =; N>D&W5665%; =3&58C&A; 3BCM96X&5%&) 9"<@P?%983&?>749\$; "7c&1%@89#654@>&:96&%@3&0M38%>PA; 65%&) 38%"6>c& !B%3685%; =3&58C&

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W9=JKKE&& ,\$\$"3\$&;8&%@3&C3=3B94738%&9:&-3\$\$98&-35683C&,8:9675%;98&?>\$%37\$&5%& W ! ? ! & -58#B3>&+3\$356<@&) 38%36H&I63\$38%5%;98&#;=38&5\$&456%&9:&W5%;985B& /;C39&03B3<98:3638<3&9:&W ! ? ! & -3\$\$98\$&-35683C&?%336;8#&) 9777;%%33H&

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å 23<åJKK(åå	&[! &\$9<;9P%3<@8;<5B&544695<@&%9&<977"8;<5%;98&58C&7"B%;4B3& C3\$<6;4%;98&;8&%@3&<98\$%6"<%;98&9:&9S`3<%\$D&M%@&456%;<"B56&63:3638<3&%9&) ! 2&\$>\$%37\$[H&I5436&463\$38%3C&5%&]%@&,8%3685%;985B&)98:3638<3&98&) ! 2T) ! . D&+9S9%;<\$&58C&A5<%96;3\$&9:&%@3&A"%"63H&W96:9BXH&
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& ! "#&JKK(&	I 583B&<@5;6&58C&C\$<"\$\$58%D&[+3\$356<@D&5<%;98&63\$356<@&58C&63:B3U;=;%>H[& ! 7 36;<58&?9<;3%>&:96&)>S3683%;<\$&588"5B&<98:3638<3D&[1<9B9#;<5B& * 8C36\$%58C;8#[H&V\$B9D&W96M5>H&
& ! "#&JKK(&	,8=;%3C&C\$<''\$\$58%&58C&4583B;\$%D&?%H&Z5BB38&+3\$356<@&)98:3638<3D& [?9<;5BP96#58;_5%;985B&%@396>c&A697&.3%@9C9B9#;<5B&,8C;=;C''5B;\$7&%9& +3B5%;985B&A967''B5%;98\$H[&f9<@\$<@''B3&?%H&Z5BB38D&?%H& Z5BB38D?M;%_36B58CH&
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& W9=&JKLK&	IB3856>&?3\$\$;98&<@5;6D&[-3568;8#&58C&f3B48#H[&!88"5B&<98:3638<3&9:& %@3&!736;<58&?9<;3%>&:96&)>\$3683%;<\$D&[)9883<%;98\$[H&/;6#;8;5&O35<@H&

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. 5>&JKLN&	,8=;%3C&4583B&<@5;6436\$98&58C&C\$<"\$\$58%D&[W3M&2;63<%;98&&;8&?>\$%37& 0@396>c&!"%949;3\$;\$&;8&V6#58;_5%;98&&58C&1<9B9#>[H&!88"5B&733%;8#&9:& %@3&,8%3685%;985B&)977"8;<5%;98&!\$\$9<;5%;98D&.98%635BD&)585C5H&
& . 56&JKLN&	,8=;%3C&4583B&737S36&9:&4B3856>&\$>749\$;"7D&[-58#"5#3&58C& V6#58;_5%;985B&23\$;#8[H&!88"5B&733%;8#&9:&%@3&!736;<58&?9<;3%>&:96&)>S3683%;<\$&Q?43<;5B&1"694358&)98:3638<3RD&?MH&Z5BB38D&?M;%_36B58CH&
& . 56&JKLN&	[) 9P<98\$%6"<%;98&9:&V6#58;_5%;985B&,C38%;%;3\$[H&I5436&463\$38%3C&98& 4583BD&[23=3B94;8#&?3B:PV6#58;_;8#&?9<;5B&?>\$%37\$[H&?43<;5B&1"694358&) 98:3638<3&9:&&@3&!736;<58&?9<;3%>&:96&) >S3683%;<\$D&?%H&Z5BB38D& ?M;%_36B58CH&
& . 56&JKLN&	\ 96X\$@94&<@5;6436\$98D&[! 44695<@3\$&%9&?9<;5B&?>\$%37\$[H& ! 88"5B& 7 33%;8#&9:&%@3& ! 7 36;<58&?9<;3%>&:96&)>S3683%;<\$&Q?43<;5B&1"694358&) 98:3638<3RD&?%H&Z5BB38D&?M;%_36B58CH&
å V<%åJKLFå)@5;63C&\$3\$\$;98&[. 5<69&58C& . ;<69&/;3M\$&98&V6#58;_5%;98&58C& ,8\$%;%"%;98D[&5%&%@3&?;U%@&,8%3685%;985B&)98:3638<3&98&)"B%"63&58C&)977"8;<5%;98D&I@;B5C3B4@;5D&I!H&
& ?34%JKLF&	[!&)>S3683%;<& . 3%@9C9B9#>&;8&Q?3B:RPV6#58;_;8#H[&!CC63\$\$&5%&%@3& \ 3\$%368&+3#;985B&7 33%;8#&9:&%@3&! 7 36;<58&?9<;3%>&:96&)>S3683%;<\$D& ?58%5&)6"_D&)5B;:968;5H&
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$$\begin{split} & \texttt{W9=&JKLJ\&} \quad [! C54\%5\%; 98D\&) 9 "8\%36P ! C54\%5\%; 98D\&58C\& ! CC; <\%; 98H[\&I5436\&463\$38\%3C\&5\%\& 588 "5B\&733\%; 8\#\&9:\&\&@3\& ! 736; <58\&?9<; 3\%>\&:96\&) >S3683\%; <\$D\& \ 5\$@; 8\#\%98D\& 2H) H\& \end{split}$$

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- k
- V<%&JKNL& QM;%@& . H&2 "8<58&?%58%98&58C&0@975\$&)H&09CCRD&[+3C"<%;98&9:&A57;B>& 0@3654>&26949"%&+5%3\$&0@69"#@&+3;7S"6\$3738%c&!&?%"C>&M;%@&!CC;<%& A57;B;3\$H[&I5436&463\$38%3C&5%&W5%;985B&)9"8<;B&98&A57;B>&+3B5%;98\$& 588"5B&733%;8#D&I@;B5C3B4@;5D&I!H&

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! 46;B&' (JF&& \ 96X\$@94&Q98&?X>43R&M;%@&;8%3685%;985B&\$%''C38%\$&;8&4634565%;98&:96& ! <%;98&+3\$356<@&\$37;856&;8&V\$B9&W96M5>D&5\$&456%&9:&f;V ! &Q * 8;=36\$;%>&) 9BB3#3R&,8%3685%;985B&?''7 7 36&?<@99BH&&

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! "#&' (JJ&	+3\$498C38%&QM%@&W965&O5%3\$98&58C&O@975\$&f>BB58C&16;X\$38R&%9& 4"SB;<&\$<6338;8#&9:&:;B7D&!8&1<9B9#>&9:&.;8CRH&-;%365%"63&f9"\$3D& V\$B9D&W96M5>H&
". 5>&'(JJ&	- 3<%"63T \ 96X\$@94ck?>\$%37\$&I65<%;<3D&1<9B9#;<5B&0@;8X;8#&58C&!<%;98& +3\$356<@c&O68#;8#&%9#3%@36&?<@9B56\$@;4&58C&I65<%;<3H&*8;=36\$;%>&) 9BB3#3D&?<@99B&9:&1C"<5%;98D&V\$B9D&W96M5>&&
". 56å' (JJå	$eq:W3M& \ 5>$&9:& \ 96X;8\# ht f 9M & 83M & 73C;5& & 9B & 55965 & =3& M96X \\ 5<&69 & & 656;3& & 05B & XTM & 96X & & 03B & 3896& & 0+3& 356<& & 0& 58C \\ 23 & = 3B & 94738 & & 2;=;&;9& & RD & V& & B9D & W96M \\ 5>& & & & & & & & & & & & & & & & & & &$
A3S&'(JJ&	QM;%@&1C;3&?35\$@963D&) @56B;3&?35\$@963&58C&b583&b96#38\$98RH&O@3& 63B5%;985B&\$3B:&5\$&58&5#38%&9:&<@58#3c&?973&;74B;<5%;98\$&:96&\$>\$%37\$& 465<%;<3H& \ 96X\$@94T463\$38%5%;98&5%&O@3&-3M;8&) 38%36&588"5B&733%;8#& 98&?>\$%37\$&165<%;<3D&5%&O@3&.9"8%5;8&&"3\$%&,8\$%;%"%3D&A69\$%D& \ 3\$%& /;6#;8;5H(
& W9=&'(J(&	& ! <%;98&+3\$356<@&58C&,74B3738%5%;98&?<;38<3H&163\$38%5%;98&9::363C&%9& ,74B3738%5%;98&?<;38<3&Z69"4&5%&*8;=36\$;%>&9:&?9"%@&AB96C5H&
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