

EDST5438

@YUXYfg\jd'H\Ycfmž'F YgYUfVX 'UbX'DfUWjWY

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7 ci fgY`Cj Yfj]Yk

GhJZZ'7 cbhJWñ'8 YhJ]`g

7 cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cWWh]cb	D\cbY
F]WUfX`B]YgWXY	f"b]YgWXY4 i bgk "YXi "Ui	9a U]`Zcf`Ub Uddc]bñ Ybh	F cca ; %* A cfj Yb 6fck b Vi]X]b[f\$&Ł'-\$*) %* &&

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GWcc`cZ9Xi WWh]cb

5fngž8 Yg][b`UbX`5fW]hYWñ fY

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9. YXi WWh]cb4 i bgk "YXi "Ui

K . \hfdg.##k k k "Ufng"i bgk "YXi "Ui #YXi WWh]cb

5W_bck`YX[Ya YbhcZ7ci blfm

I B G K `5fngž8Yg][b`UbX`5fWk]fYWhi fY? Ybg]b[hcb`UbX`DUXX]b[hcb`Wla di gYg`UfY`Vi]hcb`5Vcf][]bU`
@UbXg"K Y`dUmci f`fYgdYWhg`hc`hY`6]X}[U`UbX` ; UX][U`dYcd`Yg`k`c`UfY`hY`7i`gfcX]Ubg`cZ`hY`gY`UbXg"
K Y`UW_bck`YX[Y`hY`5Vcf][]bU`UbX`Hc`fYg`G`fU]h`g`UbXYf`dYcd`Ygž`hY` :]fgh5i`gfcU`Ubgžk`c`gY`UbXgž
k]bXg`UbX`k`U`fYg`k`Y`U`bck`g`UfYž`UbX`dUm`fYgdYWhi`hc`hY`f`i`b]ei`Y`j`U`i`Ygž`UbX`hY`f`V`b`h]bi]b[`UbX
YbXi`f]b[`W`h`fYg`k`\\]W`XYYdYb`UbX`Yb`f]W`hY`Z`cZci`f`bU`h]cb`UbX`W`a`a`i`b]h`Yg`"

U[Y`W`ci`f`hY`gmicZ`hY`C`Z]W`cZ`hY`D`fc`J`]W`!7`UbW`c`f`bX][Ybci`g`[L`B`G`K`f`g`bX\]\[Ybci`g`g`f`U`h`\[`m](#)

7ci fgY'8YHJ`g

I b]hg'cZ7 fYX]h*`

K cf_`cUX

%) \$`ci fg]bWi X]b[`WUgg`Vc bHUW\ci fgž fYUX]b[gž WUgg`d fYd UfU]cbž UggYgga Ybž Zc`ck`i d`UW]j]hYgž YHw

Gi a a UfmicZ`h`Y`7ci fgY

⊕`h]g`Vci fgY`mci`XYj Y`cd`i bXYfgfUbx]b[`cZYXi WU]cbU`YUXYfg\]d`h`Ycf]Ygž`W ffYbhfygYUfVX`UbX dfUW]W`Mci`Vc bg]XYf`h`Y`a U`cf`UddfcUWX Yg`hc`YUXYfg\]d`gi`VX`Ug`fU]hž`VY`Uj`]ci`fž`Vc`b]b[`Yb`Vmi`UbX`fUbg`Zc`fa`U]h`cbU`YUXYfg\]d`h`Ycfmž`Ug`k`Y`Ug`W`ffYbhfygYUfVX`UbX`dfUW]W`]b`h`Y`Vc`b]i`h`cZYXi`WU]h`cb`

7ci fgY`@YUfb]b[`Ci hVca Yg

%`8]gW`gg`W]h]W`mi`h`Y`bUhi`fY`cZ`YUXYfg\]d`Vch`h`YcfY]W`mi`UbX`\ck`]ha`Ub]Zy`hg`]b`X]ZYfYbh`gVX`cc`cf`ch`Yf`YXi`WU]h`cbU`Vc`b]i`hg`&`XYb]h]Zmi`UbX`UbU`mgY`fYgYUfVX`Yj`XYbW]ž`Vch`c`W`UbX`]b]h]fbU]h]cbU`ž`k`]h`fYgdYWh`c`k`U]h]g`WU]a`YX`cb`VY`U`ZcZYXi`WU]h`cbU`YUXYfg\]d`'`8Yj`Y`cd`U`fY`U]h]`Y`migm]h`a`U]h]Wi`bXYfgfUbx]b[`cZk`U]h`YUXYfg\]d`k`ci`X`a`YU`b`h`c`mci`f`gVX`cc`cf`cf[`Ub]nU]h]cbU`Vc`b]i`

HYUWX]b[`GhfUHY[]Yg`

F U]h]cbU`Y.

⊕`YUg`UVci`h`YUXYfg\]d`\Uj`Y`h`bXYX`hc`XYj`Y`cd`]b`U`XnbUa`]WUbx`dfc[`fYgg]`Y`k`Um`Ug`YUf]Yf`dfc`dcgU`g`\Uj`Y`VY`b`fYgYUfVX`YXž`XYVU]h]Xž]a`dfcj`YX`i`dcb`cf`fYd`UW]X`H`Y`g]fi`W]h`fY`UbX`Vc`b]i`b]h]cZ`h`Y`Vci`fgY`gY`g`hc`fYZYWh`h]g`W]h]W]b]h]Y`W]h`U`XnbUa`]Vž`k`]h`gh`XYb]h]VY]b[`UV`Y`hc`gY`k`Y`fY`]XYUg`WU]a`Y`Zca`UbX`k`U]h`YX`hc`h`Y`f`fYd`UW]a`Yb]h`H`Y`h`UW]b[`UddfcUWX`]g`h`Y`fY`Zc`fY`cbY`cZ`W]h]W]`Yb[`U[`Ya`Ybhk`]h`h`Y`fYgYUfVX`]h]fU]h`fY`UbX`h`Y`W`ffYbhfygYUfVX`cZ`gh]U]Z`h`UW]b[`h`Y`Vci`fgY`H`Y`UddfcUWX`hc`h`Y`UW]b[`UbX`Y`Ufb]b[`]g`]b`Zc`fa`YX`Vm`fYgYUfVX`H`]g`fYgYUfVX`\Ug`XYa`cb`gf`U]h]X`h`Y`]a`dc`fU`b`W`cZ`h`Y`Y`Ufb]b[`Yb]`]f`c`b`a`Ybh`Zc`f`ei`U`]m`igh`XYb]h`Y`Ufb]b[`H`Y`fY`Zc`fY`Z`Ya`d`Ug]g`]g`d`UW]X`cb`U`Y`Ufb]b[`Yb]`]f`c`b`a`Ybhk`\]W]`]g`gh`XYb]h]W]b]fYXž`_bck`YX[`Y!`W]b]h]fYXž`UggYgga`Yb]h]W]b]fYX`UbX`Vca`a`i`b]m]W]b]fYX`

HYUWX]b[`GhfUHY[]Yg.

⊕`[`YbYfU`ž`h`Y`fY`\Ug`VY`Yb`U`g\]Z]b`Y`UXYfg\]d`h`Y`c`f]n]b[ž`Zca`Ub`Y`Uf]Yf`dYf]cX`h`UhgUk`Y`UXYfg`Ug`dcggYgg]b[`W`fU]b`YggYbh]U`dfcdYf]h]Ygž`hc`a`c`fY`fY`W]b]h]h]b_]b[`h`UhgY`g`Y`UXYfg\]d`h]Ug`g`UbX`dfUW]W]g`Ug`VY]b[`Y`Uj`]m]b]Zi`Yb`W]X`Vm`Vc`b]i`h`H`Y`a`U]b`h`Y`UW]b[`gh`fU]h[`m]g`h`Y`fY`Zc`fY`hc`Yb`Vci`fU[`Y`gh`XYb]h]h`c`i`gY`h`Y`Yj`XYb`W]cZ`h`Y]f`ck`b`Vc`b]i`hg`cZ`dfUW]W]Ug`U`hc`Zc`f`Yj`U`i`U]h]b[`UddfcUWX`Yg`hc`Y`UXYfg\]d`]b`U`W]h]W]k`Um`

H`Y`Vci`fgY`k`]i`gY`Yi`d`]W]h]b]g]fi`W]h]cb`XYg][`bYX`hc`gh]a`i`U]h]g]h`XYb]h]h]b_]b[`VY`W]i`gY`h`Y`fY`UfY`U`bi`a`VY`f`cZ`h`Y`c`f]Yg`k`\]W]`a`i`gh`VY`i`bXY`fg`h`c`X`UbX`[`fci`d`X]g`W`gg]cbž`UW]j`]h]Yg`UbX`WU]gY`gh`X]Yg`XYg][`bYX`hc`]b`W]Y`UgY`h`Y`WU]d`UW]h]m]UbX`WU]d`UV`]h]mic`Z`gh`XYb]h]g`Zc`f`XYj`Y`cd]b[`h`Y]f`ck`b`h`Y`c`f]Yg`cZ`

5ggYgga Ybh

5ggYgga YbhUg_	K Y][\h	8i Y'8UHŸ	7ci fgY'@YUfb]b[Ci hŸa Yg'5ggYggYX
%"@YUXYfg\]d'h\YcfmdUdYf	(\$i	& # \$' #&\$&&\$) . \$\$'DA	%ž'&ž'
&"H\YcfmXYj Y'cda Ybh dUdYf	* \$i	&- # \$(#&\$&&\$) . \$\$'DA	%ž'&ž'

5ggYgga Ybh% "@YUXYfg\]d'h\YcfmdUdYf

8i Y'XUHŸ. '& # \$' #&\$&&\$) . \$\$'DA

HUg_ '%! '9ggUm! '&\$\$\$'k cfXg

Gh XYbŸg'k]''fYW]j Y'k f]ŸŸb'ZYXVUW_ 'k]h]b'hfY'k YY_g'cZgi Va]gg]cb

H\]g'Ugg][ba Ybh]g'gi Va]ŸŸX'hŸfci [\ 'Hi fb]Ÿb'UbX'gh XYbŸg'WŸb'gYY'Hi fb]Ÿb'gja]Uf]mfYdcfŸg"

5XX]Ÿ]cbU'XYŸU]g

5''UggYgga YbhUg_ XYŸU]g'k]''VY'dfcj]XYX'j]U'A ccX'Y"

5ggYgga Ybh& 'H\YcfmXYj Y'cda YbhdUdYf

8i Y'XUHŸ. '&- # \$(#&\$&&\$) . \$\$'DA

HUg_ '&! '9ggUm! '(\$\$\$'k cfXg

Gh XYbŸg'k]''fYW]j Y'k f]ŸŸb'ZYXVUW_ 'k]h]b'hfY'k YY_g'cZgi Va]gg]cb

H\]g'g'hY'Z]bU'UggYgga Ybh'

H\]g'Ugg][ba Ybh]g'gi Va]ŸŸX'hŸfci [\ 'Hi fb]Ÿb'UbX'gh XYbŸg'WŸb'gYY'Hi fb]Ÿb'gja]Uf]mfYdcfŸg"

5XX]Ÿ]cbU'XYŸU]g

5''UggYgga YbhUg_ XYŸU]g'k]''VY'dfcj]XYX'j]U'A ccX'Y"

GdYWZjW7 f]hYf]U	f]k ————— 2fZk				
<ul style="list-style-type: none"> 7 `Uf]mž`Wčbg]ghYbWniUbX`Uddfcdf]UHybYgg`cZWčbj Ybhčbg`Zcf ei ch]b[ž`dUfUd`fUg]b[ž`Uhf]Vi h]b[`gci fWg`UbX`]bZčfa Uhčb`UbX`]gh]b[`fYZfYbWg`f5D5`ghmYk 7 `Uf]mUbX`Uddfcdf]UHybYgg`cZgYbhYbW`ghfi Wni fYžj cWUvi `Ufm i gYžgdY`]b[ž`di bWni Uhčb`UbX`k cfx`Yb[h 					
; YbYfU`Wča a Ybhg#fYWča a YbXUhčbg`Zcf`bYI h]ja Y.`					

F YWča a YbXYX.

#&\$`f] @`DG`7F`8B`<8k

K Y][\h]b[.

(\$i

B 6. H\Y`h]W_g]b`hY`j Uf]ci g`Vcl Yg`UfY`XYg][bYX`hc`dfcj]XY`ZYXVUW`hc`gh] XYbhg/hYmUfY`bch[]j Yb Yei U`k Y][\h]b`XYhYfa]b]b[`hY`fYWča a YbXYX`[fUXY`"8YdYbX]b[`cb`hY`bUhi fY`cZ`hY`UggYgga YbhUg_ž`YWni fYfg`a UmU`gc`WčbH]i h U`]gY`UbX`#cf`Ua YbX`hYgY`gdYWZjW7f]hYf]U`H\Y`fYWča a YbXYX`[fUXY`]g hYbhUj] Y`cb`mž`gi V`YWni`hc`gh]UbXUfX]gUhčb`dfcW`ggYg`UbX`Uddfc9YX.

GdYWZjW7 f]hYf]U	f]k ————— 2fZk				
<ul style="list-style-type: none"> • 7 `Uf]mž`Wčbg]ghYbWniUbX`Uddfcdf]UHybYgg`cZWčbj Ybh]cbg`Zcf ei ch]b[ž`dUfUd`fUg]b[ž`Uhf]Vi h]b[`gci fWg`UbX`]bZcfa Uh]cb`UbX`]gh]b[`fYZfYbWg`f5D5`ghmYk • 7 `Uf]m]UbX`Uddfcdf]UHybYgg`cZgYbhYbW`ghfi Wni fYžj cWU]Vi `Ufm i gYžgdY`]b[ž`di bWni Uh]cb`UbX`k cfx`Yb[h 					
; YbYfU`Wča a Ybhg#fYWča a YbXUh]cbg`Zcf`bYI h]ja Y.`					

F YWča a YbXYX.

#&\$`f] @`DG`7F`8B`<8k

K Y][\h]b[.

* \$i

B 6. H\Y`h]W_g]b`hY`j Uf]ci g`Vcl Yg`UfY`XYg][bYX`hc`dfcj]XY`ZYXVUW`hc`gh] XYbhg/hYmUfY`bch[]j Yb Yei U`k Y][\h]b`XYhYfa]b]b[`hY`fYWča a YbXYX`[fUXY`"8YdYbX]b[`cb`hY`bUhi fY`cZ`hY`UggYgga Ybh]Ug_ž`YWni fYfg`a UmU`gc`WčbH]i h U`]gY`UbX`#cf`Ua YbX`hYgY`gdYWZjW7f]hYf]U`H\Y`fYWča a YbXYX`[fUXY`]g hYbh]Uj Y`cb`mž`gi V`YWni`hc`gh]UbXUfX]gUh]cb`dfcWgYg`UbX`Uddfc9YX.

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

5`fYUX]b[` [i]XY`UbX`fYUX]b[g`ZcfYUW`k YY_`]g`dfcj]YX`cb`A ccX`Yzk` \]W`WUb`VY`UWY`ggYX`Vmig][b]b[]bhc`A ml`BGK` "Gh`XYbhg`UFY`YI`dYWY`X`i`gY`hY`k`YY_`mfYUX]b[` [i]XY`UbX`hc` \Uj`Y`fYUX`fYei`]fYX`fYUX]b[g VYZcfY`UHY`bX]b[`WUgg`YUW`k`YY_`"

Mci`UFY`Ugc`YbWci`fU[YX`hc`UWY`gg`chYf`fY`Yj`UbhfYgci`fWg`Zca`I`BGK` ``]VfUfmh`VSdZV,
[\hd.#k k "jVfUfmi bgk "YXi "Ui ž](#)

5`hci` [\`hY`Wci`fgY`Wcj`Yfg`U`fUb[Y`cZ`hY`a`cgh`W`bh`U`di`V`]g`YX`dcg]h`cbg`]b`YXi`W]h`cbU`YUXYfg`dž`h`jg`]g`U`fYgYUfW`!Xf]`Yb`Wci`fgY`Ugc`]b`hY`gYbgY`h`Uh`hY`W`bh`bhc`Z`hY`Wci`fgY`ZU`g`i`bXYf`hY`]bZi`YbW`cZ`hY`a`cgh`fYW`bh`fYgYUfW`VY]b[`W`cbXi`WYX`Vm`hY`g`hU`Zk` \c`hY`UW`hY`Wci`fgY`"

F YWca a YbXYX`F Ygci fWg

Gca`Y`cZ5ggcW]UH`DfcZYggcf`F`]W`UfX`B`]YgW`Yfj`Vcc`g`cb`YXi`W]h`cbU`YUXYfg`d`]bW`XY.

- 7ci`f`bYmž`G`ž;`i`b`hYfž`<`ž`B`]YgW`Yž`F`"/`Hfi`ŕ`cž`H`"f`p`Xg`"Ł`f`&`\$`&`%`&`" _UVcdR`_UZ`X`7`Uf`TRž`_R]`>VRUVcdYž,`5`cZ`TR]`V`da`V`T`ž`V`d`R`_U`3`aac`RTYVd`"@`cb`X`cb.`ó`cca`gVi`fm`
-

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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Ʒmci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`Y`UgY`
HY`Yd`l`cb`Y`9I`HY`fb`U`Gi`ddc`fh`cb`-`,`)`"``"``%`cf`Ya`U]`h`Ya`i`cb`YI`HY`fb`U`HY`hgi`ddc`fh`4`i`bgk`"YXi`"Ui`"Gi`ddc`fh`
l`ci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`i`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`i`cb`k`YY`YbXg`fI`*)`XUmg`U`mY`UfI`"Ʒmci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Zi`h`k`]h`Hi`fb]h]b`mci`i`a`Um`Udd`m`Zc`f`Ub`YI`HY`bg]cb`z`Vi`hmc`i`
a`i`gh`fY`h]b]mci`f`h]W`Y`hbi`a`VY`f`Z`ca`9I`HY`fb`U`Gi`ddc`fh`f`U`cb[`k`]h`Ub`mci`h`Y`f`fY`Yj`Ub`h`Xc`W`a`Y`b`hg`L`hc`
]b`Wi`XY`Ug`Yj`]X`Y`b`W`hc`gi`ddc`fh`mci`f`YI`HY`bg]cb`Udd`]W`h]cb`"Ʒmci`Ya`U]`9I`HY`fb`U`Gi`ddc`fh`mci`k`]`
Ui`hc`a`U`h]W`m`f`Y`W`j`Y`U`h]W`Y`hbi`a`VY`f`z`Vi`h]Z`mci`HY`Yd`l`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z]W`m`Ug`_`Zc`f`cb`Y`"
Hi`fb]h]b`U`gc`d`fcj`]X`Y`gi`d`XU`h`Y`g`cb`h`Y]f`g`mg`h`Ya`i`gh`U`h`g`cb`Hk`]h`Y`f`"

;`Yb`Y`f`U`m`z`Ugg`Y`gga`Yb`hi`U`g`_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`cb]W`m`j`]U`Y`]h`Y`f`Hi`fb]h]b`c`f`U`A`cc`X`Y`
Ugg][`ba`Yb`h`i`h`]b`g`h`U`b`W`g`k` \Y`f`Y`h`l`g`]g`b`ch`id`c`gg]V`Y`z`]h`k`]`V`Y`g`h`U`h`X`i`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`h`Y`fb`U`h]`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`c`f`]b`Z`c`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`hg`cb]b`Y`j`]U`A`cc`X`Y`.`h`h`d`g`#`gh`XY`b`h`i`bgk`"YXi`"Ui`#`ck`!
gi`Va`]h`Ugg][`ba`Yb`h`a`cc`X`Y`"

5 WUXYa]W< cbYgmiUbX`D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b[`h`Y`k cfXg`cf`]XYUg`cZc`h`Yfg`UbX`dFYgYbh]b[`h`Ya `Ug`mci f`ck b``#WU`b`hU`_Y`a`Ubm`
Zcfa gZ`Zca `XY`]VYfUH`V`X`YU]b[`h`c`UW`Y`X`Y`b`h`U`m`W`c`d`m]b[`Z`ca `U`gci f`W`k`]h`ci`h`U`W`_`b`c`k`_`Y`X[`Y`a`Y`b`h`

I BGK `[fci dg`d`U[]Uf]ga `]b`h`c`h`Y`Z`c``ck`]b[`W`U`h`Y[`cf`]Yg.

7cdm]b[.`I`g]b[`h`Y`g`U`a`Y`c`f`j`Y`f`m`g]a`]U`f`k`c`f`X`g`h`c`h`Y`c`f][`]b`U`h`Y`h`c`f`]X`Y`U`k`]h`ci`h`U`W`_`b`c`k`_`Y`X[`]b[`h`Y`
gci f`W`c`f`i`g]b[`ei`c`h`U`h`c`b`a`U`f`_`g``H`g]b`W`i`X`Y`g`W`c`d`m]b[`a`U`h`f`]U`g`Z`]X`Y`U`g`c`f`W`c`b`W`d`h`g`Z`ca`U`V`c`c`_`Z`U`f`h]W`Y`Z`

5 WUXYa]W=Zcfa Uh]cb

8i Y`tc`Yj`c`j`]b[`UXj`]W`VmB`GK` `<YU`h`z`gh`XYbh`a`i`gh`WXYW`Zcf`i`dXUH`X`]bZcfa`Uh]cb`fY[`UfX]b[`cb`]bY`YUfb]b[`Zcf`U`5f`g`z`8`Yg][`b`UbX`5f`W`]H`W`i`fY`W`i`fgYg`h`]g`H`fa`fj`]U`A`ccX`Y`cf`W`i`fgY`]bZcfa`Uh]cb`dfcj`]XYX`L

: cf`YggYbh]U`gh`XYbh]bZcfa`Uh]cb`fY`Uh]b[`tc.

- fYei`Yg`g`Zcf`YI`H`bg]cb/
- `UH`gi`Va`]gg]cbg`[`i`]XY`]bYg/
- fYj`]Yk`cZa`Uf_g/
- I`B`GK` `<YU`h`UbX`GUZ`h`mdc`]W`Yg/
- YI`Ua`]bUh]cb`dfc`W`Xi`fYg/
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