



MMAN2300

9b[]bYYf]b['A YVXUb]Wg' &

HYfa 'Hk c''##'&\$&%

GWcc``cZA YVXUb]WU``UbX`A Ubi ZUW# f]b['9b[]bYYf]b[``##`I BGK `9b[]bYYf]b[

fZ *%&E- ' ,) ` (\$- + -`GWcc`C Z]WfH

{D`YUgY`bchY`hUhihY`GWcc`C Z]W`k]`bch_bck `k \Yb#Zmci fWci fgY`Wcbj Ybcf]g'cb`Wla di g'cf
Uj U]UV`Y

9a U]

[9b\[\]bYYf\]b\[\]Gh XYbhGi ddcfhGYfj \]Wg](#) -`W ffYbhighi XYbhYbei]f]Yg

-

7ci fgY'8YHJ]`g

7fYX]hDc]bmg`*`

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

H\]g`Wci fgY`Wcj Yfg`h`Y`dfUW]WU`Udd`]W]h]cb`cZYb[]bYYf]b[`a YWU]b]W]g`UbX`a YWU]b]W]j]VfU]cbg" Hcd]W]g]bWi XY`h`Y`Zc`ck]b[.`D`UbY`_]bYa Uh]W]g`UbX`_]bY]h]W]g`cZf[]X`VcX]Yg/Yei Uh]cbg`cZa ch]cbz`k`cf`_`UbX YbYf[m`-]h]cXi W]cb`h`c`a YWU]b]W]j]VfU]cb/: fYY`UbX`Zc`fW`X`fYgdc]bgYg`cZg]b[`Y`XY[fYY!cZ`ZYXca gdf]b[!a Ugg!XUa dYf`gm]h]Ya gZj]VfU]cb]gc`Uh]cb/< Ufa`cb]WU]b]W]g]/@]bYUf]j]VfU]cbg`cZa i`h]!XY[fYY!cZ`ZYXca`gm]h]Ya`g"

7ci fgY'5]a g

H\]g`Wci fgY`U]a g`h`c`XYj Y`cd`mci f`i`bXYfgh]UbX]b[`cZ`h`Y`a YWU]b]W]g`cZd`UbUf`f[]X`VcX]YgZ`a YWU]b]ga gZ`UbX`j]VfU]c]fm]gm]h]Ya`g"

7ci fgY`@YUfb]b[`Ci hWc`a Yg

5Z]f`gi W]W]ggZ`m]Wc`a d`Y]h]b[`h\]g`Wci fgY`Z`mci`g\ci`X`VY`UV`Y`h`c`.

@YUfb]b[`Ci hWc`a Y	95`GHJ[Y`%`7ca dYH]bW]Yg
%`9i d`U]bZ`XYgW]VY`UbX`Udd`midf]bW]d`Yg`UbX`Wc`a dcbYb]mg`cZ`9b[]bYYf]b[`A`YWU]b]W]g`i`g]b[`U`fUb[Y`cZ`h`W]b]ei`Yg	D9`%`%Z`D9`%`&Z`D9`%`%Z`D9`'`"&
&`9i d`U]b`UbX`XYgW]VY`df]bW]d`Yg`UbX`Wc`a dcbYb]mg`cZa`YWU]b]W]j`]VfU]cbg	D9`%`%Z`D9`%`&Z`D9`%`%Z`D9`'`"&
'`"8]gW]fb`h`Y`fY`Yj`Ubhd]bW]d`Yg`h`Uha`i`ghVY`Udd`]YX`h`c`XYgW]VY`h`Y`Yei`]Vf]i`a`c`f`a`ch]cb`cZYb[]bYYf]b[`gm]h]Ya`g`UbX`X]gW]a`]bU]h`VY]k`YYb`fY`Yj`Ub]h]UbX`]ffY`Yj`Ub]h]bZ`fa`Uh]cb`]b`h`Y`Wc`b]h]i`h`	D9`%`%Z`D9`%`&Z`D9`%`%
(`"8Ya`cbgh]U]h`Ub`UV])m]h]c`Wc`a`a`i`b]W]U]h`W]YUf]m]UbX`dfYW]g]Y`m`UVci`h]h]W]b]W]a`U]h]fg`fY`U]h]X`h`c`9b[]bYYf]b[`A`YWU]b]W]g	D9`%`*`Z`D9`'`"&

H\Y`hUW\]b[`ghUhr[]Yg`hUhk]`VY`i gYX`]bW` XY.

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5ggYgga YbhHUg_	K Y][\h	8i Y'8UH	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
K YY_`mi<ca Yk cf_ DfcV`Ya g`	%*ı	8UH'g'gdYWZ]YX`]b XYgW]dhcb	%ž&ž' ž)
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:]bU`9ı Ua`			

@Yb[h. 'hc 'VY 'Wca a i b]WHRX

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H\]g']g' Ub']bX]j]Xi U' UggYgga Ybh'

Hk c'ei]nnYg'fk Y][\h' +i ' YUWk'hc 'VY' gi Va]hYX'cb' A ccXY"

A ccXY'ei]n' %fDUfh5' 8mbUa]Wg']g' gVXYXi 'YX' Uh* da !+da 'fGmXbYmhja YLz'K YXbYgXUm]b'k YY_' 'f%*
>i bY' &\$&%&" H\]g'ei]n' k]'']bW' XY' hY' Wcbh'bhWcj YfYX']b'k YY_g' %&"

A ccXY'ei]n' &fDUfh6' J]VfUhc]cb']g' gVXYXi 'YX' Uh* da !+da 'fGmXbYmhja YLz'K YXbYgXUm]b'k YY_' 'f&%>i `m
&\$&%&" H\]g'ei]n' k]'']bW' XY' hY' Wcbh'bhWcj YfYX']b'k YY_g') !+z'd' i g' UbmWcbh'bhZca 'hY' XmbUa]Wg' dUfh
fk YY_g' %&) k'fY' Yj Ubh'hc' j]VfUhc]cb"

Gh XYbtg' k]'' VY' fYei]fYX' hc' gi Va]hVch.

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H\Y`YI Ua `k]`VY`WŁbXi WYX`cb`]bY`fA ccX`YE"Bc`UH`gi Va]gg]cb`]g`U`ck YX`Zcf`h`]g`UggYgga Ybh`@UH`
gi Va]gg]cbg`k]`bchVY`UVWYdHYX`UbX`k]`fYW`j] Y`U`nYfc`f\$Ł`a Uf`"
: i f\Yf`XYfU]`g`k]`VY`dfcj]XYX`VYZcfY`h`Y`YI Ua "

5 hYbXUbW F Yei]fYa Ybhg

Gh XYbhg UfY gfcfb[mYbWci fU[YX'hc UhhYbX'U''WUggYg UbX'fYj]Yk ''YWhi fY'fYWcfX]b[g"

7 ci fgY'GWXYXi `Y

[J Yk WUgg'ha YhUVY](#)

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8 Uhy	HmdY	

	K cf_g\cd	A cbXUm%&'>i `m! `Hi YgXUm% `>i `m`%ghDfcV`Ya Gc`j `]b[`GYgg]cb`]b`h`Y`k`YY_ DUfh6.`J `]VfU]cb`5bU`mg]g : fYY`G8C: `j `]VfU]cb`gc`i`h`cb`UbX`UbU`mg]g
	K cf_g\cd	H\i fgXUm%`>i `m! : f]XUm%* `>i `m`&bX`DfcV`Ya Gc`j `]b[`GYgg]cb`]b`h`Y`k`YY_ DUfh6.`J `]VfU]cb`5bU`mg]g : cfW`X`G8C: `j `]VfU]cb
K YY_ , . % `>i `m! `& `>i `m`	@YWh` fY	A cbXUm%`>i `m`%gh@YWh` fY`]b`h`Y`k`YY_ DUfh6.`J `]VfU]cb`5bU`mg]g : cfW`X`G8C: `j `]VfU]cb`!`Gd %o

]cX`U`

@YWh fY	Hi YgXUm' '5i [i gh'&bX'@YWh fY]b'h\Y'k YY_ DUfmg'5/ 6. 'DfUWjVW'fYj JYk
K cf_g\cd	A cbXUm&'5i [i gh!'Hi YgXUm' '5i [i gh'%ghDfcV'Ya Gc'j]b['GYgg]cb']b'h\Y'k YY_ DUfh6.'J JvfUjcb'5bU'mg]g J JvfUjcb'fYVWd'YI YfVjgYg
K cf_g\cd	H\i fgXUm) '5i [i gh!': f]XUm*'5i [i gh'&bX'DfcV'Ya Gc'j]b['GYgg]cb']b'h\Y'k YY_ DUfmg'5/ 6. 'DfUWjVW'fYj JYk

UggYgga YbhdYfZcfa UbWžmci 'UfY'Y'[]V'Y'rc'Udd'mZcf'GdYWU'7 cbg]XYfUq]cb'df]cf'rc'gi Va]h]b['Ub
UggYgga Ybhcf'g]h]b['Ub'YI Ua "

I BGK 'bck '\Ug'U': [\]hrc'G\]h#Gi Va \]hfi_Yžk \\]W'a YUbg'hUh\]Zmci 'UthYa dhUb'YI Ua 'cf'gi Va \]hU'd\]YW'cZ](#)
UggYgga Ybhž'mci 'UfY'XYWUf]b['mci fgY'Z]hYbci ['\rc'Xc'gc'UbX'W]bbch'Uhf'Udd'mZcf'GdYWU'
7 cbg]XYfUq]cb"

: cf'XYHU]g'cZUdd'm]b['Zcf'GdYWU'7 cbg]XYfUq]cb'UbX'W]bX]h]cbg'Zcf'hY'Uk UfX'cZgi dd'Ya YbUfm
UggYgga Ybhž'd'YUg'gYY'hY'jbZcfa Uq]cb'cb'I BGK 'g'[GdYWU'7 cbg\]XYfUq\]cb'dU\]Y"](#)

D'YUgY'bc'hY'hUhighi XYb]g'k]'bchVY'fYei]fYX'rc'dfc † bch dfW

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

I BGK `Ug`Ub`cb[c]b[`Wca a]ha Ybhlc`ZcghYf]b[`U`W`hi`fY`cZ`YUfb]b[`]bZcfa YX`VmiUWUXYa]W]bhY[f]m`5`
I BGK `gh`XYbhg`Uj`Y`U`fYgdcbg]V`]hmlc`UX`YfY`hc`h`g`df]bW]d`Y`cZUWUXYa]W]bhY[f]m`D`U[]Uf]ga
i bXYfa]bYg`UWUXYa]W]bhY[f]m]UbX`]g`bchlc`YfUHX`Uhl`BGK`"B`SY[Sde_`SfG@E|`[e VWX` VW`Se ge[`Y`
fZWi`ad/e`ad[VWSe`aXafZWde`S`V`bSee[`Y`fZW_`aXSe`kagdai``ž`

D`U[]Uf]ga`]g`U`hmdY`cZ]bhY`YWfi`U`h`YZi`#iWUb`hU`_Y`a`UbmiZcfa`gž`Zca`XY`]VYfUHX`WX`YUhb[`hc`UWUXYbHU`m`
Wcdm]b[`Zca`U`gci`fW`k`]h`ci`hUW`bck`YX[`Ya`Ybh`I`BGK` `Ug`dfcXi`WX`U`k`YVg]h`k`]h`U`k`YU`h`cZ`
fYgci`fW`g`hc`gi`ddcfhgh`XYbhg`hc`i`bXYfgHUbX`UbX`Uj`c]X`d`U[]Uf]ga`ž`]g]h`[gh`XYbh`i`bgk`"YXi`"Ui`#d`U\[\]Uf\]ga`"](#)
H`Y`@YUfb]b[`7`YbhY`Ugg]ghg`gh`XYbhg`k`]h`i`bXYfgHUbX]b[`UWUXYa]W]bhY[f]m]UbX`ck`bchlc`d`U[]Uf]gY`
H`Y`mi`U`gc`lc`X`k`cf_g`l`cdg`UbX`WUb`Y`d`gh`XYbhg`cbY!cb!cbY`"

Mci`U`fY`U`gc`fYa`]bXYX`h`UhWUfYZ`h`a`Y`a`UbU[`Ya`Ybh]g`Ub`ja`dcfHUbhdUfhcZg`h`XmiUbX`cbY`cZ`h`Y`
]XYbh]Z`YX`Wli`gYg`cZ`d`U[]Uf]ga`]g`d`ccf`h`a`Y`a`UbU[`Ya`Ybh`G`h`XYbhg`g`l`ci`X`U`ck`gi`Z`W`Y`bh`h`a`Y`Z`c`f`
fYgYUfW`ž`X`fU`Z]b[`UbX`h`Y`dfcdYf`fY`Z`fY`bW]b[`cZ`gci`fW`g`]b`dfY`dUf]b[`U`UggYgga`YbhH`g`g`"

ž`d`U[]Uf]ga`]g`Z`ci`bX`]b`mci`f`k`cf`_`k`Y`b`mci`U`fY`]b`Z`fghmY`Ufž`mci`f`Y`Wfi`fY`f`k`]`c`Z`Y`f`mci`Ugg]ghU`bW`hc`
]a`dfcj`Y`mci`f`UWUXYa]Wg_]`g`"H`Y`ma`UmUg`_`mci`hc`cc`_`Uh`gca`Y`cb`]bY`fYgci`fW`gž`U`h`Y`bX`h`Y`@YUfb]b[
7`YbhY`ž`cf`gca`Y`h`a`Yg`fYgi`Va`]h`mci`f`k`cf`_`k`]h`h`Y`dfcV`Ya`Z]`YX`"<ck`Yj`Yf`a`cfY`gYf]ci`g`]bgHUbW`g`]b`Z`fgh`
mY`Ufž`gi`W`Ug`gh`U`]b[`Ubch`Y`f`gh`XYbhg`k`cf`_`cf`dU]b[`gca`YcbY`hc`Xc`mci`f`k`cf`_`ž`a`UmVY`]bj`Ygh[`UH`X`
i`bXYf`h`Y`G`h`XYbhA`]gW`b`Xi`W`h`D`fc`W`Xi`fYg`"

F`YdYUH`X`d`U[]Uf]ga`fYj`Yb`]b`Z`fghmY`Ufž`d`U[]Uf]ga`U`Z`Y`f`Z`fghmY`Ufž`cf`gYf]ci`g`]bgHUbW`gž`a`UmU`gc`V`Y`
]bj`Ygh[`UH`X`i`bXYf`h`Y`G`h`XYbhA`]gW`b`Xi`W`h`D`fc`W`Xi`fYg`"H`Y`d`Y`b`U`h`Y`g`i`bXYf`h`Y`dfc`W`Xi`fYg`W`Ub`]b`W`i`XY`
U`fY`Xi`W`h`cb`]b`a`Uf`gž`Z]`]b[`U`W`i`fgY`cf`Z`c`f`h`Y`a`cghgYf]ci`g`a`U`h`Y`fg`f]`_`Y`d`U[]Uf]ga`]b`Ub`l`cbci`fg`
h`Y`g]g`L`Yj`Yb`gi`gdYbg]cb`Zca`h`Y`i`b]`Yfg]m`H`Y`G`h`XYbhA`]gW`b`Xi`W`h`D`fc`W`Xi`fYg`UfY`Uj`U]UV`Y`Y`fY`.

[k`k`k`"\[g`i`bgk`"YXi`"Ui`#d`U\[\]Uf\]ga`\]W`<`cb`Y`g`m`i`U`b`X``D``U`\[` \]`U`f`\]`g`a`"\]`g`h`X`Y`b`h`g`h`i`X`Y`b`h`a` \]`g`W`b`X`i`W`h`D`f`c`W`X`i`f`Y`g`"d`X`Z`](#)

5 WUXYa]W=Zcfa Uh]cb

7 fYX]hdc]bhg

7 ci fgY`WYX]hg`W`W`UH`X`]b`I` b]hg!C Z 7 fYX]hfl C 7 E`H`Y`bcfa U`k cf`cUX`YI dYWUh]cb`Zf`cbY`I C 7

- [AccXY](#)
- [@UV5WYgg](#)
- [7ca di hb\[: UW\]hYg](#)
-

5ddYbX]l . '9b[]bYYfg'5i ghfU`U'f95Ł'DfcZYgg]cbU`'9b[]bYYf'7ca dYhYbWm
GHUbXUfX

Dfc[fUa ' bHYbXYX'@YUfb]b['Ci hWta Yg	
? bck `YX[Y'UbX'g_]`VUgY	
D9%"%7 ca dfY\Ybg]j YžhYcfmVUgYX'i bXYfghUbX]b['cZhY'i bXYfd]bb]b['bUh fU`UbX d\mg]WU`gWYbWg'UbX'hY'Yb[]bYYf]b['Z bXUa YbHU'g'Udd`]WUV'Y'hc'hY'Yb[]bYYf]b['X]gWd`]bY	
D9%"&'7 cbWdh U`i bXYfghUbX]b['cZhY'a UhYa Uh]Wgžbi a Yf]WU`UbU'mg]gžghUhgh]WgžUbX Wta di hYf'UbX']bZcfa Uh]cb'gWYbWg'k \]W' i bXYfd]b'hY'Yb[]bYYf]b['X]gWd`]bY	
D9%" " ' b!XYdh'i bXYfghUbX]b['cZgdYWU`]ghVcX]Yg'cZ_bck `YX[Y'k]h]b'hY'Yb[]bYYf]b[X]gWd`]bY	
D9%"('8]gWfba YbhcZ_bck `YX[Y'XYj Y`cda YbhUbX'fYgYUfW'X]fYW]cbg'k]h]b'hY Yb[]bYYf]b['X]gWd`]bY	
D9%") ? bck `YX[Y'cZYb[]bYYf]b['XYg][b'dfUW]W'UbX'WcbHYI h U`ZUWc'fg]a dUW]b['hY Yb[]bYYf]b['X]gWd`]bY	
D9%"* 'i bXYfghUbX]b['cZhY'gWc'dYždf]bWd`Ygžbcfa gžUW]c' bHUJ`]h]Yg'UbX'Vci bXg'cZ gi gh]bUV'Y'Yb[]bYYf]b['dfUW]W']b'hY'gdYW]ZWX]gWd`]bY	
9b[]bYYf]b['Udd`]WU]cb'UV`]jm	
D9%"%5dd`]WU]cb'cZYghUV`]g\YX'Yb[]bYYf]b['a YhlcXg'hc'Wta d'YI'Yb[]bYYf]b['dfcV'Ya gc`]b[
D9%"&:'i YbhUdd`]WU]cb'cZYb[]bYYf]b['hYW]b]ei Ygžhc'c'g'UbX'fYgci fW'g	
D9%" " '5dd`]WU]cb'cZgmg]Ya Uh]WYb[]bYYf]b['gmbhYg]g'UbX'XYg][b'dfcW'ggYg	
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DfcZYgg]cbU`UbX'dYfgcbU`Uhf]Vi hYg	
D9' "%9h]WU`WcbXi W]UbX'dfcZYgg]cbU`UW]c' bHUJ`]jm	
D9' "&'9ZYW]j Y'cfU`UbX'k f]hYb'Wta a i b]WU]cb`]b'dfcZYgg]cbU`UbX`UmXca U]bg	
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D9' "('DfcZYgg]cbU`i gY'UbX'a UbU[Ya YbhcZ]bZcfa Uh]cb	
D9' ") 'C fXYf'ma UbU[Ya YbhcZgY'ž'UbX'dfcZYgg]cbU`WcbXi W]	
D9' "*" '9ZYW]j Y'hYUa 'a Ya VYfg\]d'UbX'hYUa ``YUXYfg\]d	