



"64>+57 J"R3,)\*" 233" \*0" \*,=%/)" L%33&'(" \*L," /32))'8" ,"\$" ,"\$" 7D')K2+" 2\$K" ,"\$" ,"\$"  
70D()K2+JC" 'P=/'\*)\*DK' \$\*)" \*," 02&" /,;=3'\*'K" 233 " \*0" ('2K%\$N)" -," \*0" L"@ " M'-," ("  
7D')K2+[]"/32))J"70" , (K'("-('2K%\$N)"%\$"\*0")+332MD)"K,')"\$ ,\*\$'\$/))2(%3+" %\$K%/2\*\*" \*0"  
, (K'(" %\$" L0%/0" L" L%33" K%/D))" \*8" ,) , " K," \$ , "\*" 'P=/'\*" ('2K%\$N)" 2" \*0" M, \*\* ;" \* , " M"

0-4>68+-#2)56.,D <#';=\*'K"\*,"/0'2\*b"^,\$[\*"K,"%\*J"1,(\*D\$2\*'3+8"\*0'("2("-'L"=,))%M3"  
,==,(\*D\$%\*%)")-,"/0'2\*%\$N"%\$"\*0%)/,D()'J"O\*DK'\$")2("'\$/,D(2N'K"\*,"\*23@"\*,"'2/0",\*0'("  
2M,D\*\*"0'"('2K%\$N)"2\$K"2M,D\*\*"0%("-%\$20",D\*)%K",-"/32))8"2\$K"2("'\$/,D(2N'K"\*,"  
D)"\*0%(" \$,\*)" 2\$K" ('2K%\$N)" L0'\$" L(%\*%\$N" \*0'" -%&'')2+)" 2\$K" -%\$23"=2=(J" 70" , \$3+"



K6D#L16.,+)5.' "?,L"K,"2D\*0,(%\*2(%2\$(D3'())D)"('&\$D')2\$K",\*0'(")\*2\*\*"K%)/(!\*%,\$2(+  
\*,3)"\*, "MD%3K")D==,(\*b"S02\*";2@')="2\*(,\$2N")\*(2\*N%');,("(",("3'))D//))-D3b"?,L"  
K,')"\*0"2;D\$\*,-"('&\$D'"2--/'\*"(,)=/'\*"-,(")D(&%&23b "  
"64>+57'#

¥" .'2K" /02=\*(" 4" Q=N)J" AV\6T" ,-" \D\$," K" X')UD%\*28" \D/'8" R32)\*2%(" O;%\*08"  
.2\$K,3=0" XJ" O%&'(),\$8" 2\$K" E2;)" ^J" X,((,LJ" 455AJ" 45"( F/'%\*( /0( 1/-%2% \*#(  
3,7)%)#J">2;M(%KN'9"XC7"F('))#

¥" .,)) 8"X%/02'3"455! J"g^,)"G%3"?%\$K'("^;,(/2/+bj" G /7-\$ (1/-%2% \*6:(:AQAT9"A4:  
A6!J#

¥" R((%,32' c,\$2(K," .J " 455B

- " \+;2\$8" ^2\$%'3" 2\$K" E'\$\$\$%-'(" c%\$KJ" 45!5J" gF+,\$N+2\$N[])" OD(&%&23" O\*(2\*'N+9" 7,,3)",-"RD\*0,(%\*2(%\$>,\$\*(,3"%\$"],(\*0"h,(2Jj" 0&2 "7&#2% /&#(3 " \* , 7%2=8"A:Q!T9" `` <V`J"
- " ZD%\$3%&T\$;)"7J"!BBBJ"g>,D=<=<(,,-%\$N9"C\*)"F(2/\*%/!"2\$K">,\$)'UD'\$(/)" %\$"\*0"X%KK3"d2)1&7"7&#2% /&#(3 " \* , 7%2=8"4`Q4T9"!A16:J #
- ¥" 70,;=),\$8"X2(@".J"455!J"g7,"OO,,\*,"(,"\*\*,"OO,,\*9"F,)\*,\* 23%\*2(%2\$%);"%\$">0%\$2" 2\$K"d2)\*'("\$dD(,='Jj" H/><#7#2%) "(1/-%2% \*68"A`Q!T9"6AJ
- ¥" f,,KL%\$ 8" E'-" 2\$K" 70'K2" O@,/=,3J" !BaBJ" gdP=32%\$%\$N" .!&,3D\*%,,\$)" %\$" \*0" >,\$\*!;=(2(+70%(K"S,(3KJj" 1/-%2% \*6(@/3/\*% "2=8"!VQ`T9" a5BJ"

**4 6 A : A**

K6D# L16.,+)5.#

- o " 0\*\*=9eeLLLJKL,je'\$e-%&' <'2() <\$ <N+=\* <2-'( <0' <2(2M)=(%\$Ne2  
!aBVA`6A"
- o " 0\*\*=9eeLLLJ\*0'2\*32\$\*%/J/,;e%\$\*('\$2\*%,\$23e2(/0%&'e45!e!5e;2)K3'  
'N+=\* <D)<,3%/+e`B:AVe`

#1 #2 6. D 5 14

#  
#

(43,#!!<#01,2)3+,43+45#;+,1,+5.#45>#,DF6.#)/#41,2)3+,43+45#367+86#

11 13  
 K6D#L16.,+5).'S0+"K,;%3%\*2(%)"',;:\*%;)'%\$\*('&\$'"%\$=",3%\*%)(2D)' ""0";;%3%\*2(+  
 02)"\*0"ND\$)8"0,L"K,"/%&%3%2\$"K%/\*2\*,()'&'("2%\$\*2%\$"/,\$\*(,3",&'("0%(";%3%\*2(+b"  
 3'2K'()' ,-"%;3%\*2(+("N%;;)'&'("3%\$UD%)0",L'60+"02&";;%3%\*2(+("N%;;)'M'/;,'" "  
 (2(")%\$/"0">,3K"S2("\$K'Kb " "  
 "64>+57'#  
 ¥' f'KK')8" \2(M2(28" d(%/21(2\$\_8" 2\$KE,)'=0" fJ" S(%N0\*J" 45!`J" gX%3%\*2(+ .D3'Jj"  
 +&&, #(! ")%" . (/0(1/-%2% \*#(3\*% "&\*8"!V9"!`V464J"  
 ¥' O@%;="N)J8!"2\$K"V4a:"- 1%\$6"O2;D'3"dJ"!B64J45"(E#&/&(A/76"K#\*N?(45"  
 ! /- "(/0(25"(E%-2#7=(%&(1/-%2% \*6J"c,\$K,\$9"F233"X233J  
 o " \+)"@%;8"-(:;"\*0%)"('2K%\$N"C")%:=3+"L2\$\*"+,D"\*,"N"\*2')\$)" ,-"\*0"-2/\*,() "  
 \*02\*";%N0\*"/2D)"\*0";;%3%\*2(+\*,"%\$\*('&\$'"%\$=",3%\*%/)2\$K);\$)"02\*";%N0\*"  
 L%\*0K(2L"J  
 ¥' .'2K"/02=\*(':"g70"d\$K",-\*0".N%;'9"F,3%\*%/23"O,/%\*+" 2\$K"\*0"X%3%\*2(+j"Q=N)J"  
 :: <6VT",-O\*1=2\$8"R3-'(KJ"!BaaJ'"25%&N%&'(E%-2#7=(1/-%2% \*6?(87#R)-(#&\$25"(3/,25"7&  
 H/&"S"F(%\$/\*,\$9"F(%\$/\*,\$#%\$&'()\*%\*+"F(')J  
 ¥' X2(%\$,&8"]%@,32+" 2\$K"?'%\$" f,0.24 338.4[9L0 0 0.24 363.691 444.9543 cm 70.2518]%4

¥" ?D\$\*%\$N\*, \$8" O2;D'3" FJ" !BV5J" gO, /%23" 2\$K" C\$)\*%\*D\*%, \$23" ^+\$2; %A 2(\* G\$'  
O+)\*); Jj"C\$" +, 25/7%2#7%#&(1 /-%2% \*6(%&(E/\$"7&(3/ \*% "2=8"dK)J"O2;D'3" FJ"?D\$\*%\$N\*, \$"  
2\$K">3'; \$\*"?J"X,, ('J"J"L"i, (@9"2)%/"\,, @)8"==J"A <VJ"  
¥" J2\*02\$8"R\$K('L"EJ"455AJ"gRD\*0, (%\*2(%2\$%)\$3j" 9/ , 7&#(/0(J " > / \*7#\*=8"! Q!T9"  
6<VJ"  
¥" .'2K" \*0"\*0', (+)'/\*%, \$"2\$K")'/\*%, \$)", \$"X232+)%2"Q=N)J"`` <48"V`BA8"!!6<4`8"  
!`6 <6A8"4!! <44: T"%\$O32\*(8"^2\$J"45!57\$ "7&' (1 / . "7?(H/&2"&2%/, 6(1 /-%2% \*6(#&\$(  
+, 25/7%2#7%#&(F" )#25#&6(%&( 3 / , 25"#62( +6%#(c&%\*)@+\$K" S2+" Q45!58" A!α

¥" .'2K"/02=\*('A"q^/%)%,\$"X2@%\$N"%\$F,)\*/,3,\$%23"R-(%/2j"Q=N;JT!A%\$"&2\$"K"  
S233'8"j%/,32)J 455!J407%\*#&( ;\*/&/>% "6(#&\$ (25"( 1/-%2%\*6( /0( 1 "7>#& "&2(H7%6%6:(  
DYVYZDYYYJ"jL"i (@9">2;M(%KN"#%\$&'())%\*+"F())J

"  
"

**8 10**

K6D#L16.,+)5.' "C"\*%)&'(+/,;,\$"-,(/,\$\*';=(2(+2D\*0,(%\*2(%2\$('N%:')"\*,"0,3K"2\*"3'2)\*"  
)';% <,;='%\*%&' "3'/\*%,\$)8" %\$,\$\*(2)\*"\*," A5" +2()" 2N,J" S0+" 02&" " );2\$+" K%/\*2\*,)"  
2N(" K"\*,"0,3K""3'/\*%,\$)

+ > "7% \*#&(9/,7&#(/0(1 /-%2% \*#(3 \*% "& \* "8:aQ4T954 p`!`J "
¥" X/X%332\$8" E,0\$8" 2\$K" F2M3," n,%K,J" g?,L" \*,")DM&'(\*" K';,(2/+9" X,\$\*)%\$,) "%\$
F'(DJj" 9/,7&#(/0(; \*/&/>%\*(1 "76<" \*2%) "68"!aQT9"6B4J"
¥" 70("M(%-"\$'L)=2='("2(\*%/3')9 "
o" 0\*\*=9eeLLLJKLJ/;,e'\$e2-(%/2\$D\*0,(%\*2(%2\$%;') <K('2K<- </,%23<
;K%2e2<B56VV!V""
o" 0\*\*=)9eeLLLJL2)0%\$N\*,\$=,) \*J/;,e,=%\$%,)\$e2D\*0,(%\*2(%2\$%;') <'\*,3 <
\*0'%<'K%2 <,\$(,3 <\*(2\*N+e45! e5!e!5e!/:M-26' <Vaa6<!A <-V<
!AM-5'BB6:-6l)\*,(+J0\*;3bD\*;!'(;kJA-A'V4'VAV5/ ""
o" 0\*\*=9eeLLLJL%('KJ/;,e45!6e5!e),/%2\$ 'K%2;2K' <0' <2(2M)=(%\$MMD\*
/,D3K\$\*<2&' </%\*e
¥" .'2K"=N)J"!BA <B`"Q\*0" "M(%-"(';2(@)"2M,D\*"3%\*(2/+ "2\$K"%\$KD)\*(%23"=(,KD/\*%,\$T"-(-;"
X2\$8" X%/02'3J" !BaaJ" g70" RD\*,\$,;D)" F,L'(" ,-" \*0" O\*2\*9" C\*)" G(%N%\$)8"
X'/02\$%);"2\$K".)D3\*)Jj" ; ,7/< "#&(9/,7&#(/0(3/ \*% /- / '=84:Q4T9"!a<4!AJ"
"



¥" .!2K"=N)J"a6 <`4"-(;;" >0");2\$8 "]%/J"45!:J" J " > / \*7#\*=(%&(+07% \*#?(3, \*\*"66"6:(  
P#-,7"6:(#&\$25"(327, ' '-"(0/7(1/-%2% \*#(! "0/7>