



/ 0 . - +310 283 / , !93+1

L2!D<(!()-!,I!D<(!+, . '0(:!2, .!0<, ."-!B(!\$B"(!D,4!

Q-( )D#I2!D<(!I. )-\$&()D\$'0!,I!&#+',(+, ),&#+!D<( , '2!

HTC"\$#)!<,O!+, )0.&('0!&\$P(!-(+#0#, )0!#)!D<(!I\$+(!,I!0+\$'+#D2!\$)-!<,O!D<(0(!-(+#0#, )0!/\$'2!#)!'(OC, )0(!D, !+<\$)N(0!#)!D<(!(+, ),&#+!( )/#', )&()D!

HTC"\$#)!<,O!I#&0!&\$P(!-(+#0#, )0!#)!D<(!I\$+(!,I!0+\$'+#D2!\$)-!<,O!D<(0(!-(+#0#, )0!/\$'2!#)!'(OC, )0(!D, !+<\$)N(0!#)!D<(!(+, ),&#+!( )/#', )&()D!

K, &C\$'(!+, )0.&('!\$)-!C', - .+( '!B(<\$/#, '!'(0."D#)N!I', &!D<(!-#II(' )D!D2C(!, I!&\$'P(D!OD' .+D.'(0!

9CC"2!\$"N(B'\$#+:!N'\$C<#+\$'!\$)-!+\$"+. "0!D, , "0!D, !&#+', (+, ), &#+!D<( , '2!

9CC"2!&#+', (+, ), &#+!C'#)+#C"(0:!D<( , '#(0!\$)-!&, - ("0!D, !+'#D#+\$""2!\$)\$"2c(!\$)-!(TC"\$#)!(+, ), &#+!0#D.\$D#, )0!(+ , .)D('(-!#)!D<(!('\$!O, ""-!D<\$D!#) / , "/(!&#+', (+, ), &#+0!

K, &&. )#+\$D(!D<(!'(0."D0!, I!(+, ), &#+!\$)\$"20#0!#!\$!+"('\$!\$)-!C', I(00#, )\$!OS2!

!

- 37 .!- 351/ 0 . - +31 : ; , 3 - !; <+1

K, . '0(!R(B0#D(4!<DdC04dd+\$)/\$0%+, , "\$-\$, %(-.d!K\$)/\$0^!e '\$-(0!\$)-!\$)2!I. 'D<('!\$--#D#, )\$!'(\$-#)N0!O#""!B(!C, OD(-!, )!

K\$)/\$0%!"(\$0(1+<(+P!K\$)/\$0!I'(`. ( )D"2!I, '!\$)2!'("(/\$)D!), D#I#+\$D#, )Od+<\$)N(0!D<\$D!&\$2!, ++. '!D<', .N<, .D!D<(!+, . '0(%!

!

; (TDB, ,P!]'(`.#'(-^4!!

1 #+', (+, ), &#+0!O#D<! 1 2G\$B:!8<sup>th</sup>!H-#D#m/TT 1 4c46004D#- 1 3(, 32.64670q0.24- 1 (#)TT2) - 1 (- 1 (+) - 1 (P) - 1 (!) - 2(\$) - 1 ( ) - 1

**39 ; . < ; , ! 0 \* 1 ; \* 5 1 = - ; 5 ! \* = 1**

K, . ' 0 ( ! N ' \$ - ( 0 ! O # ' ' ! B ( ! - ( D ( ' & # ) ( - ! B 2 ! D < ( ! + , & C " ( D # , ) ! , I ! \$ 0 0 # N ) & ( ) D 0 : ! ( T \$ & 0 : ! \$ ) - ! - # 0 + . 0 0 # , ) 0 ! \$ 0 ! 0 < , O ) ! B ( " , O 4 !

3? , - ; 1/ - 35!, 1

9)2!(TD'\$!+'(-#D!,CC,'D.)#D#(O!O#""B(!-(D('&#)(-!B2!D<(!#)OD'.+D,'!\$)-!\$)),.)+(-!D,!D<(!()D#'(!'\$00%!!

1

; ++! = \* : 3 \* , +1

!#-%@/'"48.%(/#\*\*\$:7"(7+\*!]=6!?VQX;@^!a!;<('(!O#""B(!DO("/(!JZM^!M=7C,#)D!(\$"27&,-.!"(\$00#N)&()DO!;<#0!(\$"27  
&,-.!"(O,'P!#0!-(0#N)(-!D,!('&#)-!2,!.!I!&\$D<!\$)-!?'#)+#C"(O!,I!1#+',(+,),'&#+!+,)+CDO!)+(OO\$'2!D,!B!  
0.++(OOI."#)D<\$D!&,-.!"(H\$"2!&,-.!"(\$00#N)&()DO!\$'(!,C!)!B,,P!\$)-!,C!)!,D(!\,,!<\$/(!DO,!\$DD(&CDO!\$D!(\$+<!<  
(\$"27&,-.!"(\$00#N)&()D:D<(!<#N<(OD!N'\$-(!+,.)DO:\$)-!D<(!",O(OD!DO,!JMA!\$'(!-',CC(-!I',&!2,.'!I#)\$"N'\$-(  
+\$"+."\$D#,)!H\$"27&,-.!"(O,'P!O#""B(!O.B&#DD(-!D<',.N<!K\$)/\$0!,!12G\$B!\$)-!\$'(!-.(!,)!;.(0-\$20%!

!E7L,\$8(4M.\$NN(\*JZ66!?VQX;@^!a!;<('(!O#""B(!D!(\$D!(\$0D!=6!M7C,#)D!#)7/#-(,!`.#cc(0!\,,!O#""!O\$D+<!(+D.'(!  
/#-(,0!\$)-!\$)0O('!. (OD#,)O!-. '#)N!D<\$D!/#-(,%X,D!\$""!/#-(,0!<\$/(!#)7/#-(,!`.#cc(0!;<(!D,D\$"!C,00#B"(!C,#)DO!I,!  
(\$+<!#)7/#-(,!`.#c!#0!M:!('NS'-"(OO!,I!D<(!).&B('!,I`.#c!`. (OD#,)O!#)D<(!/#-(,%!;<(O(!`.#cc(0!\$'(!,C!)!B,,P!\$)-!  
,C!)!,D(!\,,!<\$/(!DO,!\$DD(&CDO!\$D!(\$+<!#)7/#-(,!`.#c!D<(!<#N<(OD!N'\$-(!+,.)DO:\$)-!,)"2!D<(!<#N<(OD!=6!+,.)D!  
D,OS'-0!2,.'!I#)\$"N'\$-(!+\$"+."\$D#,)!Q)7/#-(,!`.#cc(0!O#""B(!O.B&#DD(-!D<',.N<!K\$)/\$0!.0#)N!D<(!D,,!"  
W?"\$2?,0#D[!\$)-!\$'(!-.(!,)!k'#-\$20%!!

!B\$\*2.\*\*\$47\*/>6!?VQX;@^!a!;<('(!O#""B(!I(.,!'!JA^!M67C,#)D!-#0+.00#,)0:\$)-!,)"2!2,.'!<#N<(OD!D<('(!J5^!0+,'(O!  
+.,.)D!D,OS'-!2,.'!I#)\$"N'\$-(%!;<(O(\$00#N)&()DO!\$'(!#)D(-(-!D,!<\$/(!2,.!D,!#)D('\$+D!O#D<!+\$00&\$D(0!\$)-!B.#"-!  
+,&&.)#D2!;<(!-#0+.00#,)!O#""!,+."!\$02)+<',),.0"2f!Q!O#""!C,OD!\$!-#0+.00#,)!'!. (OD#,)!:\$)-!2,.'!O#""!(OC,)-!D,!  
D<(!`. (OD#,)O!\$D!2,.'!+,)/()#)+(!C'#,'!D,!D<(!-.(!-\$D(!F#0+.00#,)O!\$'(!,C!)!B,,P!\$)-!,C!)!,D(!\$)-!O#""!B(!  
O.B&#DD(-!D<',.N<!K\$)/\$0!k,'!(\$+<!-#0+.00#,)!2,.'!#)D#"\$!-#0+.00#,)!C,OD!O#""!B(!-.(!O(/('\$!-\$20!C'#,'!D,!2,.'!  
-#0+.00#,)!'(OC,)O(!:!0,!C"(\$0!),D!D<,0(!#)-#/#-.\$"-(\$-"#)(0,)!K\$)/\$0!

!H(-2\$(\*JZ>=!?VQX;@^!a!;<('(!O#""B(!DO("/(!JZM^!Z=7C,#)D!(T('+#0(0!;<(!I,'&\$D!,I!(T('+#0(O!O#""!B(!&."D#C"(!  
+<,#+(:!+\$"+."\$D#,)0:\$)-!0<,'D!\$)0O('0!\$)-!O#""!B(!,C!)!B,,P!\$)-!,C!)!,D(0!\,,!'!O(OD!,)(!JZ^!(T('+#0(!#0!  
-',CC(-!I',&!2,.'!I#)\$"N'\$-(!+\$"+."\$D#,)!%!!;<(O!(T('+#0(O!\$'(!/'2!0#&#"!\$'!D,!D<(!C',B"(&!0(DO!\,,!<\$/(!DO,!  
\$DD(&CDO!\$D!(\$+<!`. (OD#,)!),!D<(!T('+#0(!HT('+#0(O!O#""!B(!O.B&#DD(-!D<',.N<!K\$)/\$0!,!12G\$B!\$)-!\$'(!-.(!,)!  
)-\$20%!!

<-4)%( '/6(+\*/JMY=!?VQX;@^!a!;<('(!O#""B(!DO("/(!JZM^!M=7C,#)D!C',B"(&!0(DO!;<(!I,'&\$D!,I!D<(!C',B"(&!0(DO!O#""!  
B(!&."D#C"(!+<,#+(:!+\$"+."\$D#,)0:\$)-!0<,'D!\$)0O('0!\$)-!O#""!B(!,C!)!B,,P!\$)-!,C!)!,D(0!B.D!2,!.!)2!<\$/(!,)(!D'2!  
C('!. (OD#,)!%\,,!'!O(OD!,)(!JZ^!C',B"(&!0(D!#0!-',CC(-!I',&!2,.'!I#)\$"N'\$-(!+\$"+."\$D#,)!%?',B"(&!0(DO!O#""!B(!  
O.B&#DD(-!D<',.N<!K\$)/\$0!,!12G\$B!\$)-!\$'(!-.(!,)!1,)-\$20%!

!

M% 0%\$7(/<-42+4-\$7:/P\$+0/<-42+4-\$4!

; <(!F(C\$'D&())D!,IH+,),&#+0!\$D!D<(!J)#/('0#D2!,I!K,",'\$- ,!L,.-"-'!.0(0!D<(!,)"#)(!C',+D,'#)N!D,,";! ?',+D,'#,:!I,'!D<('#!C',+D,'(-!(T\$&0%!

@P#""!\_(`.#'(&())D0!

@D.-()D0!\$"0,!)((-!D,!C,00(00!B\$0#+!+,&C.D('!0P#""0:!0.+<!\$04!

- o b,O!D,!0(!\$!O(B!B',O0('!\$)-!O,'-!C',+(00, '!)
- o b,O!D,!



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- 3 < != ! 0 . +1