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8 7 9 6 8 6 # 8 6 A 7 8  
9 < = 6 > 6 6 A 6 6 ; < B  
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A 9 7 6 D 6 B @ 6 >  
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# ,7? C % <:6 ;9< 6 EE

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# 6 < 6 .?> ; 97? 6 EK

# 47 9 6 78 %9 =< 12

&96 9 3E

&96 @? 4< 6 < 3E

. <C?6 .< 6

# 6 7 96 PP

&96 >7B A97 @ 6@ 78 96 . <C?6

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# %? 66 % 7 6 K

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. 6 C 96 %?C< -< 6F < = <C6

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>6 7A ? ; 7 A 9 96  
# <9<><@ 7 6 78 9  
96 A7 @ < @ 7 6 78  
; 6 78 @ <  
6 < 6 A< 8< 7? >687 6  
: 7A < @ 87 < B ;6 ?  
; < 6@ < @ C< 6@ 96 97  
@ 6=7? @? 96  
6;;< 78 @? =6  
>< : < 6 : 7A < @ 6=6  
7? @ < =6 B < <  
;7? 6@ 97 B \$6 @6 ;6  
6 ? 6 < =< 7 @6< 9 96  
=< 7 @7?> B ? 6  
%? ;9 96 6 ? 6@ < ; E

9 < < @ < 6 6 < 6  
9 < 97? @ < 7 6 7 < -  
A 9 96 78 96 ;  
6 < 7 <> B 97 6 7 > 6 < = 6  
6 < 6 9 < <> 7? 8 8 66  
6 6 < @ 7 6 @ 7 9 <  
< 97? C 9 96 B ? > 6 A 6  
9? @ 6 @ 97? < @  
& 7 = 96 97 B ; B 7  
9 6 < @ 7 > < 96 96  
9 C 96 < > 7 78 6 = 6 B  
% 7 96 66 < 6 @ < B  
C 8 7 6 = 6 B ; 7? E  
= < 6 ? < A 97 9 < = 6  
= > 6 6 > 7 @ 6 78 96  
@? A 9 ; 9 <> 7 ? 6  
< @ 7 96 A 7 @ 6 8? B  
< 6 - < 6 @ 6 ; > 6 @ 9  
7? N? 6 7 96 7 ; ?  
@ < |  
6 < 6 96 6 ? < 6 78  
# 96 6 A @ 6 C 9 6 @ 7  
97 B ; B 7 6 = 6 B A 6 < 9 B  
; 6 A 97 7 8 6 6 96 @  
A 96 7 > ? B 7 > ? @ < 97  
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&96 6 < 6 < <;6 ;< 6 6 @  
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=6 &96 7A 6 = 96  
7 6 < @ A ;7? 96  
8 96B @ 6 96 97 B <;6  
< <;6 <; 6 9 6 7  
< 6 ;7 > 6 7 <:6 A  
< 6 % \$ ;9< @ &6 6 @  
96 8 6 =6 8 7 <C6  
\* 7 96 6 6 < @ < <;6  
@7A 7 96 A< 6 @6 <  
6 78 96 87 B 6=6 ; C9  
C <;6 < @ N?<B 87 A  
8< 7?  
&96 ; B 9< < 86A 8 6  
7 78 ;9 @ 6 < 6 <;:  
96 6= 6 C < 6 F0 GC  
96 N?< 6 6  
6 ? 6@ 9< 96 6  
<9 < 6 < 6 &96 6 < 6  
D !? 7 6< 7 @< 6@  
-9 < A7 : ? @6 ?;9 ;  
A 6;6 < B >6 @ 88 ;?  
>6 6 6 >6 6@ 9< A6 9<=6  
<> 7 ? 6 B ? < < 6 6@ 7 7  
<: C 7? 7 @ : 7A 496

@ 6 6 @ 7 A 96 67 6 7  
4 < B 96 6 < > 96 @ 9 6 8  
496 # 6 6 < @ 6 6 @  
@ ? 96 < @ 6 6 < 6  
N ? < 6 # @ 8 7 6 < 6  
87 9 96 ; < 6 ; 9 < @ @  
C 96 67 6 < 9 C96 7  
@ ? 6 = 6 : 6 A . < ?  
6 < ; 96 @ 96 C 6 < ;  
- 9 ? ; 9 ; < 7 < 887 @ 7 @ < B  
N ? < 6 B 6 6 6 6 @ A96 6  
7 ? > 6 < @ 7 C  
8 7 B 6 < 6 ; 7 ? @ > 6 A7  
7 6 9 < 6 < 6 A7 ? @ > 6

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6 9 < @ 7 @ 6 6 @ \$ < < - 96  
7 6 97 ? < @ 97 6 6 7 <  
A < < C < 96 \* 6 ; 9 96  
96 68 ? 6 @ 7 7 6 @ 7 @ 7  
> B 4 < 6 < C [ 1 G G G G  
96 E 9 78 # ? C ? 96  
( 6 6 < 9 6 8 < 6 < 6 @ 7 9  
77 : ? 9 6 @ 6 ; 6 96  
< @ 97 ) < 96 ; B & 96  
< C < : 6 @ 96 \$ < < 87  
78 9 ; 7 @ ? ; # 96 6  
@ 6 6 @ ? < 8 < ; 7 B < @  
% C 9 A < ? ? @ 6 < 6  
97 ? 6 < % 9 A < < C 9 < 4 <  
9 6 8 6 ? A 9 < 9 < 6  
J 6 C 6 ; 6 ; < 6 9 < <  
< 6 @ 6 9 < @ ; 7 6 @ 96  
\$ < < C < < @ 9 < @ 7 ; 6 6



\$ < < l 97? 6 49 < 87 7A  
78 ? ; 9 97 7 9 < A  
6 ? ; < ; 6 ? > 7 96 <  
6 < C & 96 C ? < @ 7  
; 7 6 @ 78 A7 ; 7 < 6 7  
% 6 7B < < > 7 = 6 6 7 6 @  
. 7 9 < l @ 6 < ; 9 6 ; 7 < @  
96 788 ; 6 < 6 < @ B < 6 @  
< 7 6 @ < 6 ; 7 6 @  
? 7? @ 6 @ 96 < < 6  
\$ < < A < & 96 \$ 6 @ 6 l  
6 ? 6 @ A 9 9 < 7 . 7  
< 7 96 ; 7 < B 78 % 6 7B  
788 ; 6 A 9 < ? 7 7 @  
? 7 96 8 < B 496  
< = 6 @ < 96 \$ < < l 97? 6  
? 7? @ 6 @ < @ < 96 < = 6  
> B < ? ? @ 6 78 < 6 @ 6  
96 < < C 6 & 96 @ 78  
? 7? < 6 > B > 6 ; 7 C 77  
7 6 78 96 > 6 C < 7 8 6 ?  
A 9 96 N ? < 6 < @ 6  
9 9 < @ > 6 6 < ; 7 ; 6 6 @  
< < 6 7? < @ 8 6 ; 6 <  
% 6 7B A 97 A < C 96  
6 < 78 @ 6 8 6 ; 6 > 6 C A 9

7 A6 6 ;< <> 6 78 <: C  
6 < ;6 < @ 86 < 6< B  
? 6 7 ? >6 78 96 < <  
;? < 7 6=6 B < 78 9  
< B 7 6;6 &96 788 ;6  
A6 6 96 8 = ; 7 96  
? 96B 9<@ >B < 7 9  
> <=6 B < @ ? @ <B6@ <  
6 @< C6 A9 ;9 ? 7?  
=7 =6@ < ?;9 ? 6 7 ? >  
6 6 6 96 8< 6 96  
;7 8? 7 96 \$< < 87? @ 6  
9 7?C9 < A ;:6 A9 ;9 7 6  
=6 < @ 96 >< : >6 C  
66 9< <;6 96 6 9  
? >< 6@ 7C6 96 7  
A< A< C 87 9 < @ ;7 :  
96 7 7 6 97 6 | 7 \$< <  
96 6 6 <9< < <9 6 @6  
< 7 .7 9< 9 788 ; <  
9 @ 7 @6 C =6 96 ?  
< @ A7? @6@ < 0G3 6  
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A6 6 B C A 9 < < @  
7 96 97;: C B < C 6@  
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"6< 96 -96 (< 7 ;6  
< 6 ; 7 6@ C 7? @ A96 6 9  
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C ; 7 H J &96 6 ;  
A< 96 >? < <;6 78 > <  
@ 6@ 96 6 87 < ;6 78  
96 3 9 78 #?C? &PK A<  
A< >? 7 7 6; 96 7  
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- 7 6 7 96 %9 =< < \*7 <  
78 96 9 66 6? 6 < '  
7 > A6 6<@ H J &9 <:  
6 6; 6@ >B 96 (7=6 6  
6 6 =6 96 < 6< 9 B 6  
6? # ;9 %;7 < <  
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@7 C 96 @? B I  
"7 8< 8 7 7? 7 >?  
< C6 97? 6 ;< 6@ "< @6  
>6 7 C 7 96 <9< < <9 78  
A< 6 >B 9 7 96 . ;6  
78 4< 6 A96 96B = 6 @  
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< > 6 <> 7 A9 ;9 < 6

87 7A C A7 @ H &9 9  
6 @6 ;6 78 )<= 6 <  
6 < 6 A< @686 @6@ >  
9< @6@ A 9 < 6< 7 96  
PLL <C< 0GG < 6@ 6  
6>6 "<A<> 4<M # I  
&96 ; @6 A7 9 6;7 @  
< C =6 >B 96 \$6=  
% 9 9< @ >77: 78  
J PLL 9 <88<  
< =6 B ; ;< ;7 @ 7  
& 77 %? < A< C< 96 C  
9< < ?CC 6 A9 ;9 6 @  
9 7A < @ @6< 9 < %6 C<  
&96 \* 6 ;9 <@@6 6@ >B  
@686< >B "6 7 < 96 ><  
A6 6 @7 C < 96 7A6  
A6<:6 96 =< @ <  
< < C6 #8C9< < B ? @6  
< <97 6 A< 9 6< 6 C < @  
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? 6; 7 78 4<M #  
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4<M # 9<@ PL >66  
?;;66@ 9 6 ? 6@ 8< 96

'? @ 9 > ? 9 < @ A 9 < B 6 <  
7 96 C 7 ? @ 78 6 C <  
< @ C 6 6 < @ < 8 8 6 ; 7  
6 < 6 7 96 > 7 @ 6 78  
A 96 6 96 = 6 @ ? : B 6  
< C 6 6 7 != 6 ; 6 9  
96 9 < @ ? 6 @ 96 @ 6 < 78  
A < 7 B 6 6 6 B 6 < 78  
96 7 < 7 C < 6 6 <  
9 < > 6 6 = 6 7 = 6 @ < >  
< < C 6 < 6 @ 6 ? 6 <  
6 ; 7 ? 6 A 9 < ! ? 7 6 <  
- 96 B 96 9 \$ 6 @  
6 \* 7 9 6 @ 6 ; 6 <  
C < @ 6 96 : 6 ? < ; 7 6 7  
96 # 8 C 9 < < B < < 9 7 6  
A 9 7 6 ; ; 6 7 8 ; 7 8 6 @ 6 < 6  
; 6 C 6 > 6 7 96 ; B  
6 = 6 < 7 8 96 < C 6 9 7 ?  
< A 6 6 ; 7 6 ; 6 @ < @ <  
8 7 6 8 8 6 6 6 7 ? @  
8 7 ; 6 A < C < 9 6 6 @ 7 <  
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A < 8 6 6 @ > B < 6 ; 6

> ? B ; < 6 @ < : < 7 < 6  
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; M 6 < @ A 6 6 6 < @ B 7  
7 < B 7 6 6 6 A 9 7 ; 7 ? @ 9 7  
7 6 7 8 ? @ 6 ! < B  
A 9 6 < 9 6 < A 6 6 < @  
< 7 A 6 6 7 B A < C 8  
8 7 9 6 ; 7 < @ 6 7 8 9 6 < 9  
9 6 6 ; < 6 < 7 @ 6 8 7 9 6  
( 6 6 < 9 7 ? C 9 - 9 6 B  
# 9 7 ? @ > 6 6 @ < 6 B  
- < ; ? < " < ? < B 9 6 4 < M  
; 9 < C 6 @ < @ @ ; 7 8 6 @  
6 @ 7 < 6 C < C  
9 7 C 8 7 6 = 6 C 6 8 7 8 7  
9 6 E 9 7 8 < ? < B P L L 9  
9 ? ? < < C 6 6 ? 6 7 =  
A 9 7 9 6 7 ; ; ? 6 @ 9 6 > ? @  
< 9 6 - 7 6 ; 7 | : < ; 9 < 9  
9 6 6 ) < = 6 9 6 < C  
A 8 6 7 ? 6 @ 7 < 6 6 9 <  
8 7 9 6 7 C @ 6 4 <  
> ? 6 A < 7 A 9 9 6 ?

7 6 < @ 7 < 8 6 96 ?  
7 96 B A 6 6 < 7 A 6 @ 7  
> 6 8 7 6 ) < = 6 | 9 < 6 B 6  
7 6 9 C ? ? ? < 96 ?  
< < B 7 8 96 6 ? 6 ' 9  
- 96 B | 9 7 ? 6 4 < M #  
< 8 6 @ B < 6 < @ 7 8 8  
6 < A 9 ; 9 96 @ 6 ; 6 @ 8  
- 96 B ; 7 ? 6 @ 9 7 C  
> 6 C < < < C B 7 6 7 ; 7  
6 ; 6 7 @ 6 < @ < <  
C ? 96 6 M 6 @ - 96  
9 < > 7 A A 9 9 @ < C C 6  
6 C < @ 6 @ < 96 C < 8 7  
8 7 7 A 6 < @ 96 ? 8 7 ?  
6 @ < 6 B < < ; : 6 @ 8 7 <  
< < C 6 @ 9 7 A 6 = 6 7 > 6 <  
9 < < < > ? A < 8 7 7  
< 8 6 A B < @ 8 7 96 9 7 ?  
8 6 ! = < 9 6 ; 6 < B  
- 7 A < B A 9 7 7 @ 6 ? ? 6 ;  
96 9 7 ? 6 A 9 6 96 @ ? >  
; 6 6 @ C & 96 4 < M 96  
8 7 7 A 6 < @ 7 = 6 @ 7 8 8 7  
96 6 @ 6 ; 6 7 8 ) < = 6  
96 B 6 < @ : 6 @ 9

A97 :6 < 97 96 ;  
6< 6 )<= 6 << 6@  
9 6< 6 C < 6; 78 4<M  
9< @ 6@ < 6 B 7 9 < =  
< ;96@ < 7 6 78 A< C 7  
A9 ;9 97A6=6 < =6@ 77  
7 96 < 6 96 <A 96 8  
87 7A6 < 7<;9 9 97? 6  
9 6 =< &96 6 A< 7  
7 >6 7 < @ ? <> 6 7  
A6< 7 96 < ;96@ < 6<  
< 6 @< < 96 @77 < @  
)<= 6 7 < ;6 @ 7 96 778  
96 96 7 6 ;9 @ A97 6 <  
&96 < ;< 6 96B < ;6 @6@  
< @ A @ C < @ ;7=6 6@  
A 9 < < @77 78 >< >77  
'=6 9 )<= 6 7? 6@  
@686 @ 8 7 > 6 <C<  
78 @6 6 < 6 6 &96 6.  
A< 7 6< A6< 7 &96 9<  
7 < 6@ A 9 =6  
8 C < < 96 7 6 9<  
6 C 9 < @ 8? 96@ A 9 <  
> <@6 78 7 6 9< A6 B  
9< 6@C6 &96 8 < A



7 <:6 9 A<B ? 96 <  
C 66 6@ A 9 < 9< ? C6  
< @ 9< B 6 6< 6@ A  
A7? @6@ < &96 6;7 @  
<=7 @6@ 96 6< < @ C <  
A 9 >7 9 9 9< @ 6@  
78 )<= 6 | C < >? 9  
96 9<8 7 96 6@ C6 78 96  
< < 6=6 7 6 7? 78  
9< @ A9 ;9 A6 6 6=6 6 B  
9< 6@ C6 78 96 > <@ 6  
8? 96 < 6 A< <@ 6 7  
< 97? C9 < B >? 6 A  
96 < ;< 6 < @ 97 6 6  
96 97? 6 7 6=6 B @6  
97 < 96 7;;;? < 78 96  
87 6< B A7 97? :6 < 7  
< 9 &96 7 B <6 @ @ 9  
:66 < ><B < ? @6 7? >  
9? @ 6@ @6 6 <@ 76  
J 96 6< 6 96 7 96  
9<@ 7? C9 96 6 < @ 7 6  
- 6=6 9<@ 7 < A 8 97  
; ;? 7? 7? 6 @ @6 7 A  
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;< 6@ &96 6 96 6 A 9

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7 96 788 ; 6 96 ; 7 ? ; <  
& 96 A7 @ 78 ; 7 < @ A < <  
< @ 96 87 ; 6 A966 6 @ 7?  
87 6 < 6 < < C < 7 496  
78 96 9778 A < 96 < @  
? 6 B @ 6A 788 9 6 <  
9 6 6 < < @ 97 ) < | C  
87 6 C9 86 96 C < @  
< < ; : 6 @ < @ 4 < M # 87  
? 8 6 N ? 6 6 @ A < B 7 9 A <  
C < 9 \* 7 6 < B < B 6 < 96  
9 6 8 96 A @ ; 7 ? B <  
96 < < B < > ? 96 A <  
; < ? 6 @ < @ 96 8 < =  
? ? ; ; 6 8 ? 6 > 6 7 < A 9  
< < 7 6 9 7 ? C 9 6 < 6  
& 96 7A6 7 7 78 96  
@ 686 @ 6 @ > B ) < = 6 < E  
96 " < @ 6 ? 57 9 < @  
; 6 6 6 B < - 9 < ? : < ( 9 <  
7 ? 6 7 - 96 B < @ 9  
96 87 78 < N ?  
7 > 6 : 6 7 < 6 6 <  
7 6 7 < 6 6 @ < 96 87 ?  
< C 6 8 ? 6 < ? 9 <

; 7 A9 ;9 78 6;6  
J &9 7>6 : A< 6 6; 6@  
78 (67 C6 \* 6@6 ;: -96 B  
#C6 -< < -7 A<B \$7  
9< ! N \$ ;9< @ !=<  
A6 6 ? @6 6@ >B 4<M #  
E PLL I  
K1P ;< 6 96 C 6< ?  
6 < 6 A7 97? < @ < =6  
<>7? A7 9? @ 6@ 9  
< 7 6@  
) \* ;96 6 96 7 B  
A7 @ H  
"7A96 6 6 9< @ @ ! C  
9 6 7? A 9 < ; 6< 6 8  
6 < 6 6 < 6 96 97  
@? 9<@ < 7 ? < 7  
8< < ;< < @ ? >? 6  
@6C 66 &96 -< 7 6 A<  
9 66 %6 7B 6C 6 F <  
6=7 F 1G 6 78 < 9  
96 G 9 < @ 7 6 9 B  
A 9 9< 8 < >< 6 B 78 <  
;7 < @ 78 ' 96 ? 9  
78 7 @ 6 < @ ; = <  
96 ; BF &? ;:6 96 ;7

\* 6 @ 6 ;: (? >> 96 ? @ C 6  
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' 96 ;7 < @ 7 8 96 C  
7 7 96 7 > B 6 6 ;7  
:6 96 ? > ? 6 ; B < A  
? 7 ? 6 7 B 8 7 > 6 < : C  
6 7 7 7 96 < C 6 <  
96 7 A ? ; 9 ; < B 6 8 7  
9 7 7 < 6 < ; 96 @ 96  
-7 7 6 & ? ; : 6 < 6 <  
; 7 ? < C 6 9 < @ < 6 C 7 ?  
A 6 B 6 ; 7 @ ; 9 < 6 7 8 0  
A 7 6 7 7 @ - < C ] A <  
> B ^  
J " 6 6 < ; 96 @ 96 ; B 7  
8 7 ? @ 9 6 8 7 96 = 6 B 6 @  
& 96 6 7 B 9 < @ < < C 6 @ 8 7  
7 96 C 9 7 8 ? 6 E & 96  
? > 6 6 @ 7 = 6 0 G G G 96  
< A 6 9 < = 6 6 6 ; 7 6 @ 7  
96 G 9 < @ 9 B <  
9 6 6 C ? & 7 96 6 " 6  
7 8 9 ] < > ^ A 9 7 96 9 <  
A 9 9 " 6 ? 96 6  
= 6 96 6 A 7 96 > C < @  
; 9 < C 6 7 8 96 < 7 <

97? | 7 ;6 A< 6 7 =6  
96 %6 7B  
J &96 >? 6 A< <  
6 7B ;7 6 ;6@ 7 977  
? 6@ 7 96 788 ;6 .  
7 @ < 87? @ ] 96 ? ^  
78 96 ;6 6 77 ?;9 87 9  
> 7:6 @7A 6 @ 7? 6@  
A97 9<@ >66 C B A< ;9  
< @ <> ? B ] (6 6 <  
< @ ^ .7 7 >B < 6 6@  
< @ "6 < B 7 6 6@ 7  
A 9 C < 6 < @ ? :6 B 8 6  
86A ? 6 | 8? 7? 977  
6 7B 8 6@ &96 01G 9<  
< < B 6 6 969 0 G  
4 6 :#  
&7 @<B 96 6 < 6 7 B EG  
6 < 6 < @ 7 7 6 < 6  
96 67 6 < 6 ;7 6 96B  
< @ A6 9<=6 96 < A<B

- " . / # # 0 & ;

, - " . / # # 3 0 &

- # . & ! \$

< 6 (< 6 9< 7 (< <  
< 7 ;< 6 @ .? B< J 96 7  
78 @ < 8< 96 A< %  
7 96 .< =< ,7? A A7  
96 9< < 6 6 9< | 96< @ <  
6D < < 7 < C =6 >B 7  
6< 6 @ 6 & 96B <B 9<  
6= 77:6 @ < 9 9  
9< 9 96< @ A< >? 788  
>6C< 7 ; B < @ 7 ;7 7  
96 C 6< C7 @ < @ 9<  
9<=6 96 96< @ 78 96 8  
A96 96 A7? < @ 7 9<  
9< 96 6 A 9 96 =6 B 6  
9< @ ;<? 6 @ 96 C 68 6 9<  
96< @ A9 ;9 A< 6 @ < 6  
7 96 7 | 97? @6  
6 9< 7 B 7 6 ? : < 9  
> 7:6 788 A9 6 8 C9 C A

? 96 9< 87? < < @ 9<  
96 6 96 97 @ < 6;; <;6 <  
< @ < > C 6;6 78 A66 6<  
6 ? 7 6@ 7 >6 =6 B 8  
< @ <> 6 7 A< 7A < 6<  
6;6 78 J <@@? | < 7 6  
96 6< 7 A9B 96 7  
C 66@B C7@ >? 96 =  
<? 6 96 ? 7 6@ 7 C =6  
< A97 A7 9 9 496  
>6C < 7? 6B 7 ;7 6 ;6  
97? 6 7 7 A 6 < >77: 96  
7 96 9 >B :66 C <A<B  
A97 C9 A 9 7 @7  
7 9 < @ 9 A7 :  
< B 78 96 C7@ < @ C7@  
9<=6 < < ? 7 A9 ;9 7 @  
? 7 6@ 7 @6 7 < <  
87 6 6C< @6@ >B < B <  
F 77 97 B 7 >6 : 6@ 6  
6<@ 96 <C?6 &96  
<=6@ >6 6< 9 96 C7@ <  
8 7 96 97 7C < 9 (< 6  
A7 9 6@ <@7 6@ A 9  
< C7 @ < @ < 6 < @  
< 6 7886 6@ 7 9 &96 >7E



96 A < 6 7 9 96 < @ 7 6  
6 9 < C7 96 A < 6 8 7  
: 7A 6 @ C6 A9 ; 9 > 69  
A < 6 78 9 A6 < @ 7  
C 7 96 C7 @ > 6 ; < ? 6  
% 9 = < 77 : 68 ? C6 A9  
6 6 7 # ? < CM6 > @ 6 7 96  
& 96 6 A97 < 6 A < ; 9 C  
A6 < C 96 < ; 6 @ 9 6 < @  
A7 9 96 < 96 B A6 <  
: 6 < 6 ; : < ; 6 A96 96 B  
87 96 < ; 6 7 96 < ; 6  
7 = 6 96 C9 97 ? @ 6 <  
68 < @ A96 96 C7 @ <  
96 9 6 < @ A7 7 = 6 96  
96 C9 97 ? @ 6 & 9 9  
> 6 ? 6 @ > B 96 < 9 < 96  
< @ 96 Q < 9 B < 9 <  
; < 6 ? 7 6 = 6 9 C9 ; <  
< 6 < 7 A6 @ 7 A6 < &  
6 6 @ 7 ? 6 9 < ; 6 @  
; < 6 @ 96 J A ; 6 > 7 I &  
> 6 > 7 ? C9 > B < B > 7 @ B  
; 7 78 9 66 8 6 A9 6 ;  
A 6 @ 7 C6 96 < @ 6 @  
: 7 ? 96 J A ; 6 > 7 I

9 9 6 < @ ? 9 < > 6 6  
> B 9 6 6  
' 6 7 8 9 6 < 9 < C  
9 6 < C 6 7 8 (< 6 9 < A 6 <  
7 8 > 6 < @ & 9 6 6 7 6 6 ;  
> 6 6 7 8 < 6 6 < @ < 6  
% 7 6 7 8 9 6 6 7 6 < B 9 <  
6 < B > 6 6 > ? 9 6 6 <  
% 9 = < A 9 ; 9 9 6 9 6 @ 7 6  
A < < C 6 < 6 6 O  
& 9 6 6 7 6 = 6 B ? C B <  
6 < 6 ; < 6 @ &  
& 9 6 7 B 9 < % 9 = < A <  
9 6 J 9 7 B ; B I > B 9 6 7  
( < 6 9 < 9 6 < @ 7 8 9 6 C 7 @ I  
7 6 < 6 7 9 6 9 & 9 6  
7 @ 6 = 7 ? 9 < < 9 7 ? C 9 (  
7 8 @ 7 ; ; < 7 < C < 9  
9 6 C 7 9 6 ; 7 ? @ 8 @  
9 > ? 9 < = C ; 7 6 7  
8 < B @ 6 ; @ 6 @ 9 < 9 6 ; 7  
9 < 6 @ 6 9 6 6 6 < 6  
= 6 B < @ 7 6 6 ?  
< @ A 7 6 > 7 A C @ 7 A > 6 8  
@ 6 8 7 6 @ C 7 @ ? < 9 6  
< @ 9 < = 6 7 9 6 < @ 7 8 6

<:6 96 < 6< 7 9 = 7  
&7 96 68 78 96 C7@  
< 6 96 7><> B 8 7  
@ < < @ ? 7  
@? 7 >6 96 >7@ B 78 <  
87?C9 A 9 Q 9 ? A97 6  
? 6@ 9 >7 6 < < ? 6  
6 6 6 O &96 ;7 ;9 > 7  
6 6 7 6< 6 96 @6 6  
96 A96 < 66 &96 <  
8 6@ A 9 96 97 B A< 6  
7=6 96 <C6 78 96 C7@

- # . & ! \$ Q

!"

C 6 6 < B ? @ 6 7 7 @  
9 < 9 6 @ ? A 7 7 <  
8 6 < @ @ 6 6 @ > B < E  
< < ; ; 7 ? 6 @ 9 6 C 6 <  
6 6 < 6 @ 7 ) ? C < ?  
C 7 < < 6 < ; 8 ; 6 @ & 9 6  
8 < 6 6 @ 7 9 6 C 7 ? @  
8 6 @ 9 C 9 9 6 < < @  
> 7 A 9 6 ; 6 < ? 6 @ 6 ; <  
9 6 < @ < ; 6 @ > B 9 6 7 8 8  
< < < < ; 7 6 7 9 6  
< < > 7 @ B 9 6 6 7 =  
6 < 6 > B 9 6 = 6 C 6 < <  
& 9 6 6 9 @ 6 7 ? < ; 8 ; 6 <  
9 6 C 7 @ @ 6 A 9 9 6 9 7 6  
9 6 A > 6 7 < 6 @ < @  
8 < = 7 ? ? 7 9 6 6 7 6 |  
6 @ ? ; < 6 @ @ < 7 8 8 6 9  
9 < 9 6 C 7 < < ; 8 ; 6 @ >



6 96 7A6 < 7 78  
96 8? 6 8 ? >6 <  
@6 B ;< >6 < 7<;96@  
B >7 ;< B >B 96 7886  
C7<  
)? C<I 87 6 < 6 96  
A< (<? A9 ;9 96 ;9< C6  
7 ;7 6 7 < 6 96 = ; 7 B  
8< 7? @6 7 )? C  
&96 6 @ @ < : < @ 6  
\$< 9<A< 9<=6 <@6 )?  
7 6 78 96 7 7 ? <  
7 6 6@ 6 < 6 !=6 B &  
67 6 9 7 C 7 < C6  
A ;6 < B6< < ;9 < @ #  
< 6 6 C 7? 86 =< < 6  
97? < @ 78 6D; 6@ @6=7  
&96 6 6 >6<? 8? B  
66 6 ? 7? @6@ >B  
< ;? 7 < 6<;9 78 A9 ;9  
C @6@ 7 96 7 ;  
< =6 >6 A9 ;9 96 6  
96 C 8 78 < !? 7 6< <C  
@6 96 ;7? B< @ 96 J  
A9 ;9 < < C6 :6 6 @ ?  
97 7? 78 96 C7@@6 &7

< : 96 A < 6 78 A9 ;9  
78 6; < < ; B <  
96 7 :6B < @ 87 @7 6  
< @ 7 7 6 78 96 6 8<;  
< ;? 6 87 ;97 6 < < @ =6  
% ; < 6 < 9 < @ 8? 78 C  
7 :6B < 6 < 8 7 6 =6 B 7  
7 > 6 @ 6; 7 & 96 B  
6 C 7? ;7 6 D 7 A 9 )? C  
>? >6 C <; 6 @ < < F 9  
< ? < F 96 B < 6 A 7 9 6 @  
78 96 67 6 A 97 = 96  
& 96 6; <; 6 78 < @?  
> 6 8 7 6 7 6 78 96 6 77 9?  
C 9 7 > B ? C C 6 < ;6  
7 96 ? < 6 @  
)? C < 96 >6 6 : 7 A  
5 < A < 96 8 < = 7? 6 C 7  
9? C A 97 = 7 : 6 @ 96 > 6  
? @ 6 7? 6 6 6 < @ 6  
A 96 ? ; ; 6 8? A 9 < 9 <  
> 77 @ < 6 @ 7 != 6  
7 > 6 7 6 < @ 7 ; ; < 7 < B  
< 6 9 < 7 6 6 7 6 =  
9? < <; 8 ; 6 9 < > 6 6 7 8 8  
@ 6 < @ 8? @ 6 B A 97 9

!"

6; < B @6 C9 7 97 7'  
< < < < O B 7 96 I  
=7;< 7 7 96 C7@ @6 7 9  
< @ < 8 66 < < 7  
7 6 < 7 ' 6 ;< 6<  
< @ 9< 96B 97? @ 7=6  
< @ < 96 9< 96 :? C  
78 > 77 @



- # . & ! \$ Q

# ! \$

< C 6 7 8 Q 9 ? A 9 7

9 6 @ ? < @ < @ 6

= 6 7 C 7 @ < @ ?

> < < 8 7 9 6 >

A 7 9 6 4 9 6 9 @ 7

7 6 < @ < A 7 7 @ 7 9 6 C 7

& 9 6 < 6 < 8 7 8 9 6 < ; 6 @

6 6 6 @ 7 9 6 < C 6 J

= 6 B ; 7 7 B A 7 9 6 @ > B

7 8 Q 9 ? < @ 9 6 <

6 @ 6 @ < 9 6 6 6 <

7 C 9 6 C 7 ? @ 6 <

; 7 A @ ? C < @ A < 6 <

9 ? C > 6 8 7 6 ) ? C 9 6

7 9 7 8 9 6 B 6 < < = 6 6

< ; 6 @ 7 = 6 7 9 <

; 6 = 6 7 ? 6 4 9 6 < <

; < 7 < = 6 9 6 < 6 9

C = 6 7 < 7 < < C 6

A 7 9 7 8 ; 7 ; ? @ 6 @

; 7 7 ; ? 7 7 < ; 6 < C

6 < 9 6 9 6 < @ 7 8 < @ B C

%&'& (&)\*+,,-&. % /,,\* - O12 \*\*3145&

( <\$ 5 \* = IV V Y H = =

& ! % # - \$ \* - # (' # &  
, - " 5 ' = # =

6 @ 6 96 ? < B A  
8 7 A 6 < 6 6 6 6 @ 7 96  
; 6 6 > ? > 6 8 7 6  
# 8 6 9 < < < @  
; ; 6 8 7 7 8 96 < C 6  
? 7 6 @ > B 9 6 7 >  
8 6 @ A 9 A 6 6 > 6 9 @  
; 7 ; 9 7 ? @ 6 @ < @ Q 9  
> 6 6 ; < B 6 < 6 @ A 9  
96 > < 9 C C 7 C 7 < @  
A < = 6 @ < > 6 : 6 @  
> ? C 7 8 96 ; 6 6 > 6 < @  
< @ 9 B 6 6 < 6 @ 4 9 6  
8 96 @ 96 < C 6 ?  
< ; 6 < @ 96 7 8 8 6 C < 6  
A 7 9 6  
J 96 6 6 7 8 < 9 < @ 6  
96 6 < 6 C 6 6 < B A 7 7  
6 A 9 7 < 7 < 6 7 96  
96 7 8 8 6 C < @ 6 7 96  
> < 9 C 6 7 6 = 96 6  
96 A < 6 96 > < M 6 ?  
7 = 6 96 < C 6 A 9 ; 9 C  
A 7 7 @ 6 < @ 96 A < 6 9  
7 6 ; 6 = 6 @ < 7 ? C 9  
7 8 96 6 6 9 7 ? C 9 < <

7? C 96 A< 6 7=6  
8 7A6 < @ 7 96 9 C <  
6 6 78 9 C7@F 96 9 @  
@? < @F 9<=6 C7 C <  
96 A9 ;9 < 6 ? C <8 6 9  
7=6 96 97 6< 7 <  
=6 6 8? 78 A< 6 <;6  
7=6 96 <C6 7 < 9 C96  
9< 7 A9 ;9 <;6@  
=6 6 9< < < 97 6 <  
9 7?C9 A9 ;9 A< 6 ;7 <  
7=6 96 96<@ 78 96 <C6  
;77 9 ;7 @6 6@ 6;  
97 A6< 96 87 96 ;7 87  
%97? @ 7 6 < : < 6 C  
96 6< B A7 9 96 7 6  
8 7 78 9 96 A <B  
78 ;7? 6 96 @76 7 9 C 7  
A7 9 96 C7@ 6 6 6 6@  
6 <B 6 B7? 9< 96 <  
A9< 96 97 7C < 9 78 < <  
7 B7? 6 <B < 7 <@@@  
-9 < F ;< 6@ \$7 < -< 97  
<C6 96 8? 96 A7 9  
6 B B7? A <B 9< <  
< A<B 6 6 B7? 66@ 7

96 ? 7 6 96 97 7C < 9 7  
8 6 @ @76 ,7? <B < :  
?@ ; 7? < @ @ 6<@8? <  
< @ 5< ;< : @ 6 96 8?  
96 )6 B < @ B7? <B  
A9 6 B7? B7? 6 8 @7 7 8  
<C6 < 96 \$7 < -< 97 ;  
<C6 < 6 78 C77@ 6 < @  
6 7 B < ? ? 7 7>  
< @ <; 7  
496 96 7 6 <C6 9< >6  
96 <9 < 6 ;< 6@ <  
86 C = C ;6 6 7 B 6 87  
6 ? A6 < 6 7 @ 96  
6 @6 < 6; < A<B 96  
96 <C6 ;< 6@ 87 < 8  
< =6 >< 96@ 8  
? 7 >6@ 7 6  
7 N? 76 A 9 ;? < < @  
6< 6@ < 8 A6 6  
C7@F < = C @? C7@  
78 5 9 < < ;< < 7 7  
<B 7 6 @<B >6 < 6@ 7  
? < O %7 B7? 66  
97?C9 7 6 @? 9 : 96  
7 6 9 C 7 6 9< 97 7C <

- # . & ! \$ Q

6

I

96

< 6

8 < 7 ? < : 6 < 6 . 9 <  
@ 6 7 < @ 7 ; 9 < @ 6 = 6 <  
& 96 6 7 6 < B 9 < 7 ; 6 ?  
> < = 6 > < @ @ 6 7 6 @ 7  
< ; 6 @ ; B 7 8 6 < 6 #  
C 7 @ A 9 7 = 6 @ 7 96 7  
< 7 < ; 9 96 B @ @ < 96 B  
9 ? < 96 A < < = 6 B  
96 A < < > 6 7 > 6 < 96 < <  
96 ; B 6 A 6 7 ? 96  
< ; 6 A 9 ; 9 7 A ; < 6 @  
7 ; 9 < A 96 6 96 6 < = 6  
6 6 96 A < 6 > B < ; B  
; < 6 @ 9 < 7 < 9 & 96 A < ;  
@ 6 7 8 7 ? C 9 7 C 6 96 < @  
@ 6 7 A < @ 6 8 6 < 6 @ < @  
9 < @ 9 96 < @ ; ? 7 8 8 > B 9  
& 96 A < ; 9 < ; < 6 @ 7 8 8



97A 7 9 < 6 A97 6  
96 9A< 496 96 9<@ 8  
7 B 96 @6 7 | 96<@ >6  
< @ >6 7? C9 96 9A< 7  
9 <A<B 7? 78 96 ; B >  
<B A96 6 9 96<@ 9<@  
96 9A< ;7 6 6@ 7 96  
C 9< 96 @6 7 97? @  
7 96 6=  
< 7 <C 66@ 9< < 97 6  
6 @6@ 7 = 96 97 B  
97? @ 8 <B < = 7  
< B 97? < @ 78 67 6  
< : 6=6 B B6< 7 <B 96  
96 C 6< C7> A97 6 >  
96<@ <;6@ >B 96 7<@  
7 96 A< 6 49B @7 96B  
C7> 6;<? 6 96B 9 :  
@6 =6 96 8 7 < 96 7 9  
A97 <B B 7 @7 96 9<  
96B C7 7 96 C 6< (7@  
< @ >6C 9 7 <=6 96 8  
C7> @6 7 C9  
C97? 96B 7 ?;9 86< ` |  
6 A< < :6@ J &96B @  
7?> 6 (7@ >B 686 C



< 6 7 9 | A< 96 6  
96 A6 97?C9 78 7 6 A7  
J &96 6 7 9 C 7 <  
<B 97 7? (7@ >B < : C  
78 |  
? ? 9 7 >6 @6 =6  
86< 78 6= A7? @  
< 6 7 96 @? A97  
96 7 78 7 6B 96< 9  
86 < 6 < ;<? 6@ >B 9  
876 &7 6 96 78 < \* <  
A97 7=6 < @ 7 6;  
7 > C =6 B C77@ 6A 7  
9< < 6@ 7?







































































































































































































































































































































































































































































