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Role of Late Cretaceous volcanic-sedimentary melanges, specifically the Alada melange, E Turkey, in the rift-drift-subduction-accretion-emplacment history of the Tethyan Inner Tauride ocean

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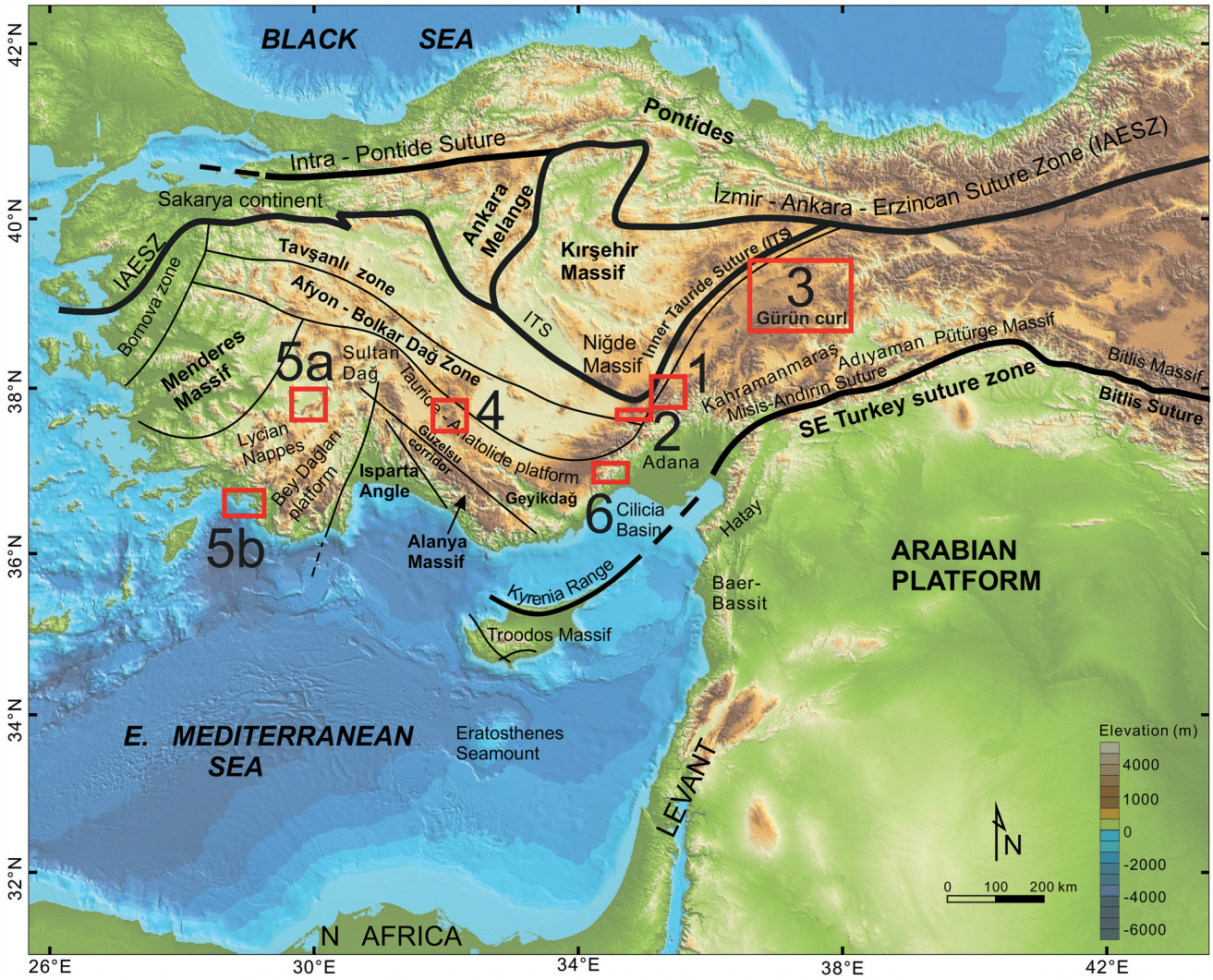
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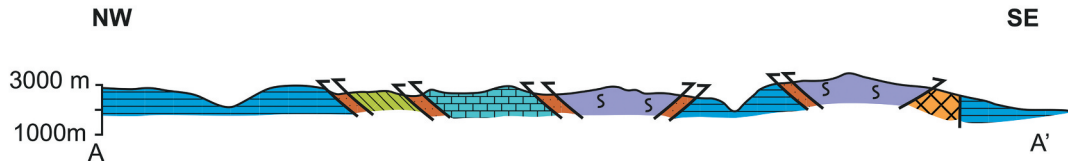
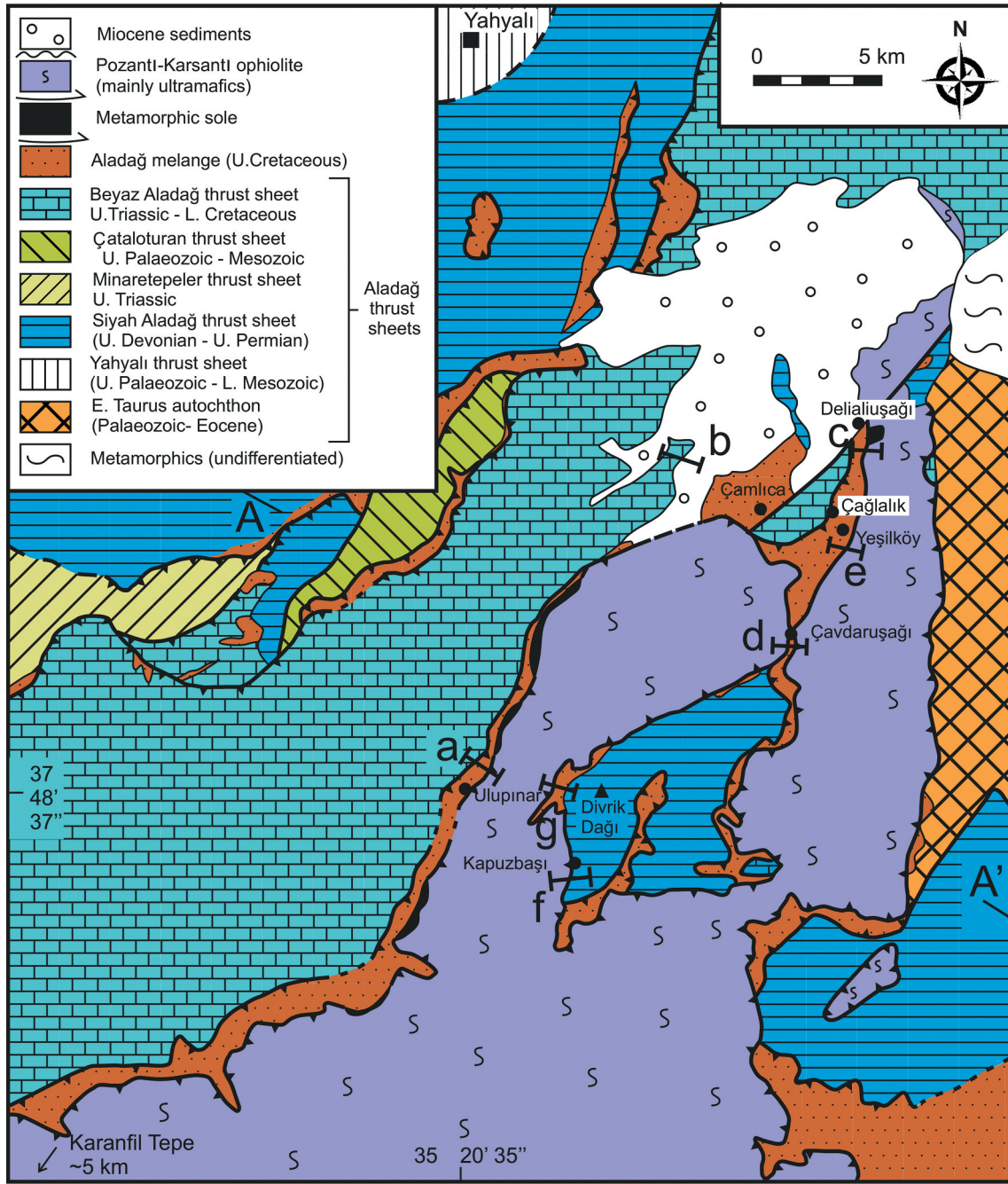
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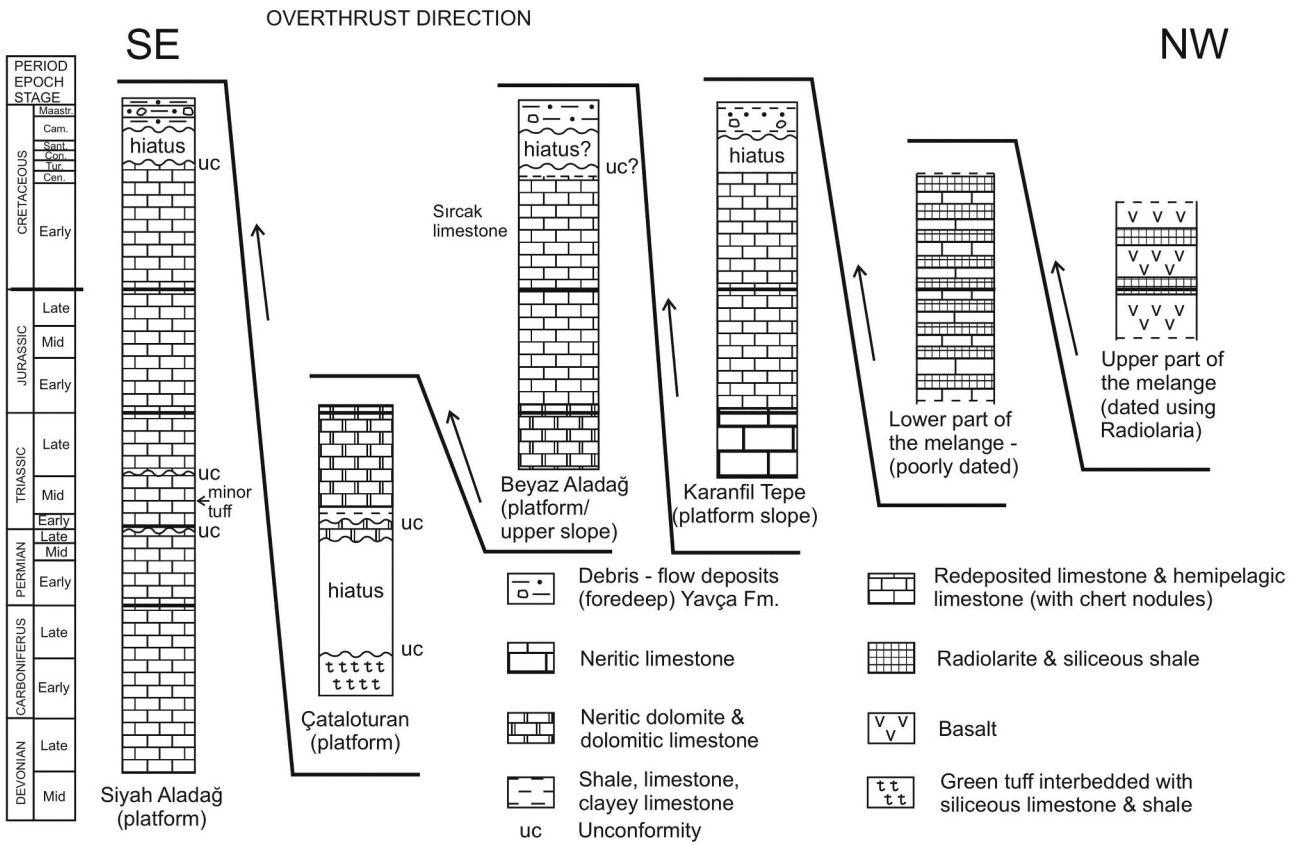
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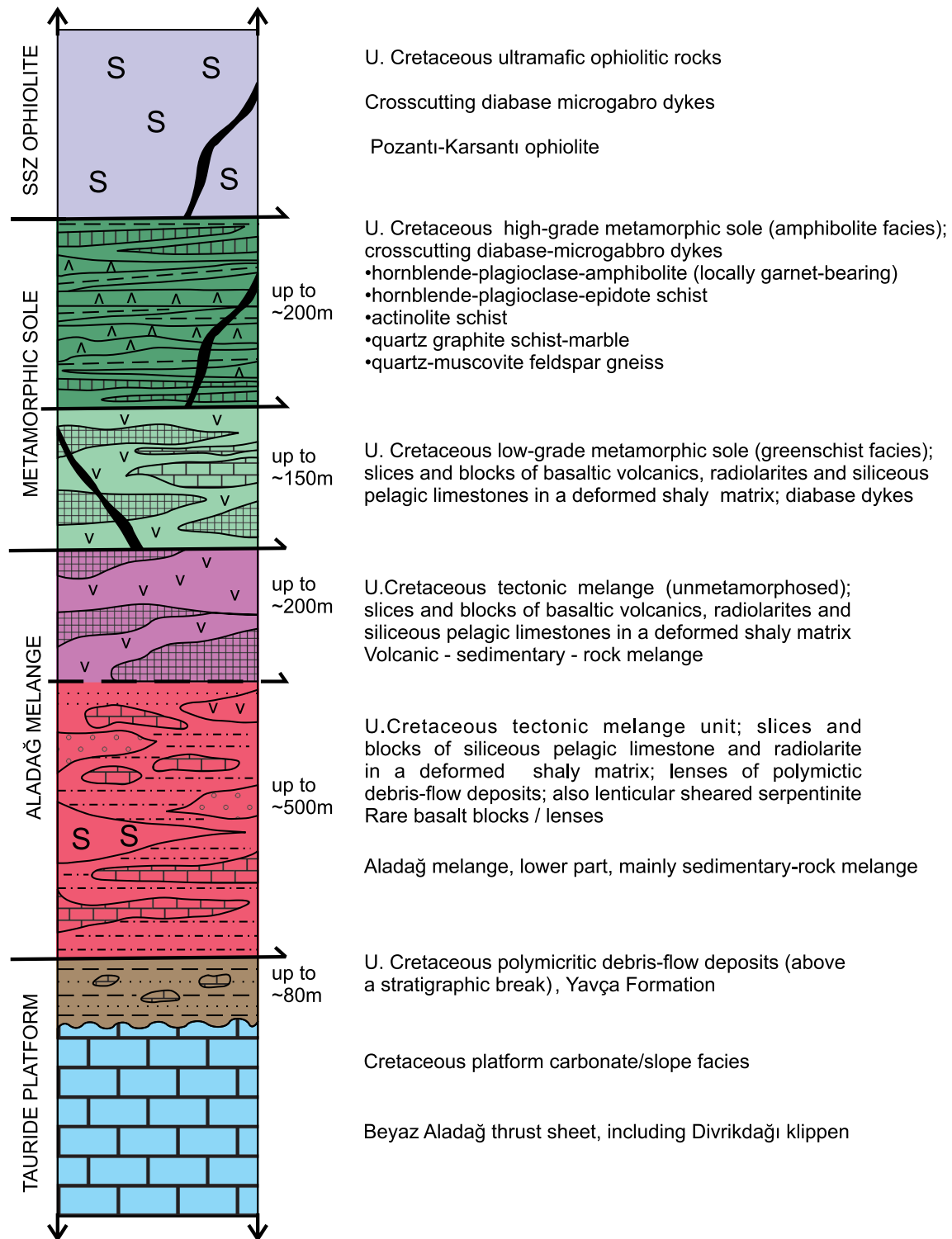
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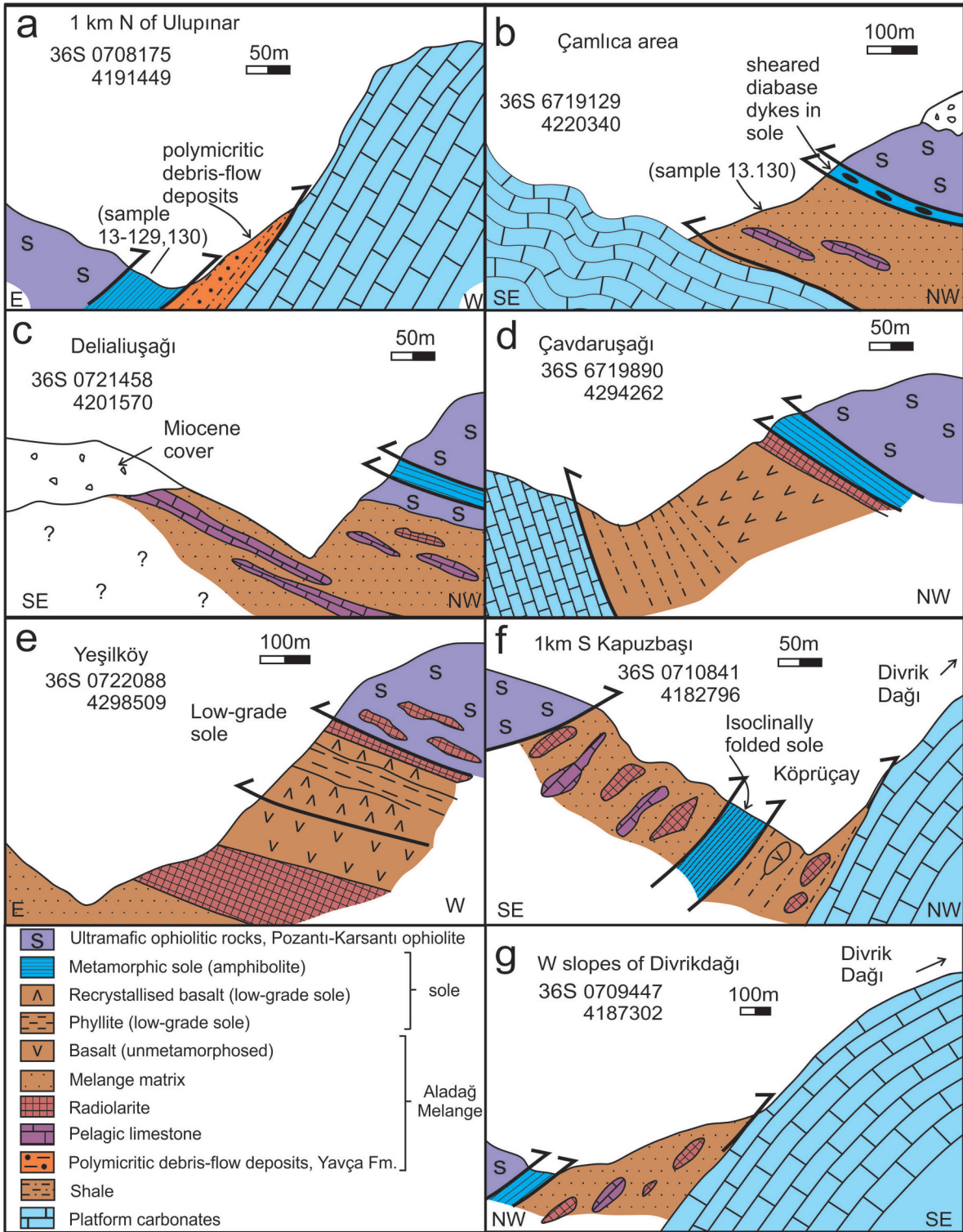


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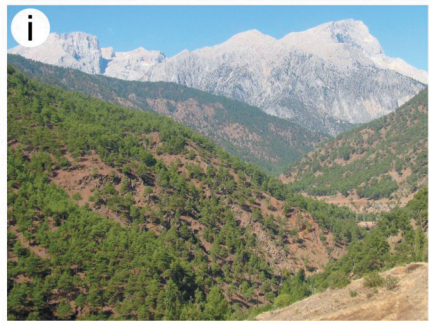
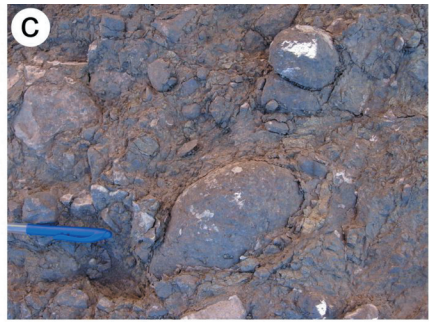
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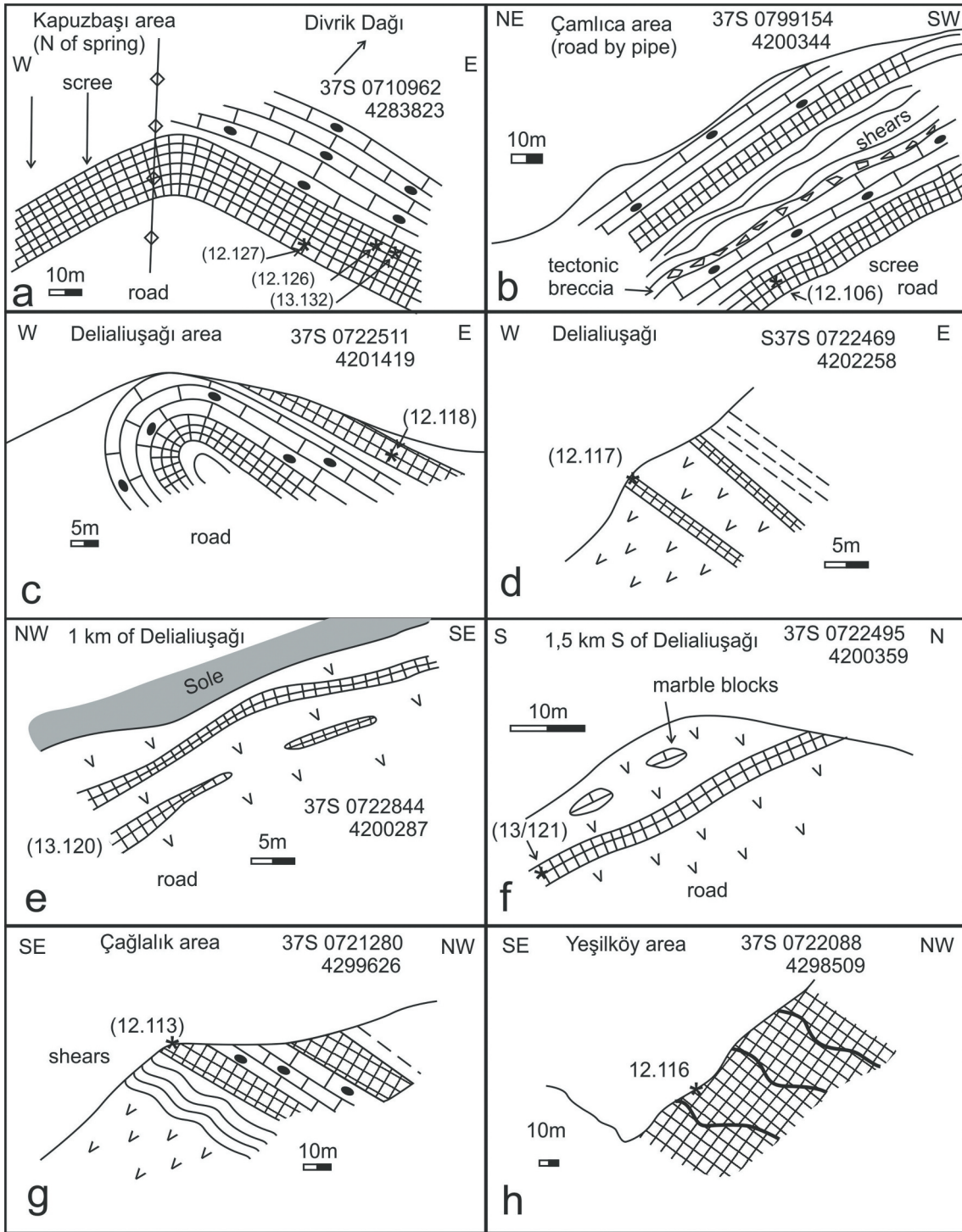


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 " ! " ! ()
 %(3U <=66: [Q <=66: ! " *
 <=6C4 <=66: 3<==;4 " 3<==84 "
 " " () " * " " R
 # ! ? R " % %
)) " " ! &# 3 4 %
 3' <==8 4 / " 3! (V) A " !
 \$ " &) 3'4 3J8> 8 O 6=> 4 & (! 3679844 ! () (A
 ! !) " # 3 677C4 ! " \$, , , &AA@
) 3 * <==9: ;4 % %
) " 5 & () 3 \$ " 4 &
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 ("(3 4 3 ! ! 4 " . (!) : #
 <==4 (3\$ <=6C: [F R 3 * <==8 <==94
 \$ (& ! " " & " " " !&
 ! : 3 V) I)Q " "0 \$! !
 4 3L G 679; 6778: N% * A ! "
 679;: <==84 !! * (9= " ! & ()
 " 3. " 4 % % &
) (& " " &
 ! " 35 (4 * " \$ 3 &# 4 V
 0 &\$! " & 3 (4 ") " &
 + ! 31 ! " & * (&# : ! &
 <=664 (! 679;: \$ " 4 (! 367984) (&
 35 (4 3L G + 31 +(24 " &
 679; 6778: A <=68 <=674 " & (\$
 5G G ! " \$ &\$! ! " &
 3 Q ' 679;: <=6J 4 \$ A ! "
 ! !) (" L 3<==;4 F("
 3L G 679; 6778: N% 679;: N% 3679; 4c (! &
 <==84 - " # ! !
 !) ! !
 35 (4 &# . 3L G 679; ! (* " !
 6778: N% 679;: &+ ! " !

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<==84) & 36== 4 * 3 !! (

31 24 !& ! 4 " (. (&

\$ " ") , (! " 3<=674

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\$ *! (* " % % & " 3'

*! ! " ! & <==8 4 /) ! !

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! " " (R ? 5) Q , &

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<=674 V " ! 3A \$ 3! , & &

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) Q (%% 3

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<4 / (" 3 6= d 6> 4:

(& " A ")

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A 4 ? ! 3' % %& " (&

4 ? \$! 3 * & (3 %Q% % &A 4 ! " &

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5 ! 44 &# 3 @ & . (# (# #) &

@ ! 4 ! (")

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 & & ! ! 3 6C3 4 -&
 3A (% <==684 " 3 6C 4
 " <> "A ! 3T <==C: <==674 & (&
 3 % 4 # " (1 2 /- ! 3 6C3 44 &
) () (!)) !! + & ()
 ! " + /- !
 3 4) & ! 3 6> 4 " &
 () "# 3 \$ 4 ! 3 677>; T %F<==94 , & -
 ((R " .& - /- !) &
 \$ 3A (% + 3 6C3 "44 /
 <==<4 5 (#) &
) (!) , & + 3 6>"4 " %' %
 & & ! 3T <==84 , & - / /- ..
) " ! 3 6C 4: & ! " &
 3 4 A (% 3<==684)) (! & &
 & (4 # 3\$ 4 + 3 6C 4 !! " &
 ! & " 3 (: 6=W6; 4 " &
 3 %' - 4 ! % N% ! 3U <==>4 (&
 / () & &/ /-& .. 3 6C 4 & +
) "# " & & " & & " &
 (! M ! " 3 6CM (! " &
 " ((! ") ! 3 <==C4 &
 3 &" 4 & +) (1 ! 2 1 2 .. 3 &
 & ! ! (!! (& 6C 4 & &
 & ? " & + 3 6C 4 & &
 / (! " &
 3A 6=<4 !) D364
 " /- :3<4" " &
 & +
 - . & & 3- (N & (4) & +
 ! & () 3 6>3 & 44: 3J4 (3 4 (&
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 " A !!! A " ! ") &) 3 4 " &
 ! " (! &) () (1 2 4 & + " &
 ! " " !! &) (& + 3 6<3 44 / &
 ! " R ! 3 (!) !! (!) !
 " 4" R ! ! !
 6C3 & 4 .. ! " !
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 (+ (" , -)
 ! " ") " ") "

J= ☹️

- . A , . #

?F G+ , 5 F G \$. ' & F\$ M K4 , GF G! G & F GH . 'K ' , F G
 H' M' , F G 1 # , 5: K! ;/\$ K! ;/\$;\$ & . & & & , F38A8G
 L 5

6778: N% 679;: Q ' 679;: 1 2 3 A A 4
 (<==6: <==<: ") (")
 <==<: <==;: L <==;: 3<4 # &") &
 <==7 <=6< 4 " R " ! * &
) " " !! ! " 3 "(4) + & ("
 " 35F G <==C: 3- (&A! 6799: - <=684 " 3
 <==7: L <=6J4 ! 3J4)) " " 3
) !! !) 3;4 " ")
 " ! (D) 6== ") (6==
) ") 6=== ") (36=
 !& ") ")
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 " 4 3<=674 " 3>4 !) , ")
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 " ") ! (" # # &. (\$
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 & ! " () <==;4 . (! !&
 " 5 ") ^ 3 <=67: (&
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 <==84 &# 3 *
 ! ! (- <==84 # 3 !
 3 4 3 679;: <==;4 " &
 <=6< 4) (! * " ^
 &! & (!
 #(!! 3 4 3\$ #)
 67794 @ " !!) &
 ! " " 3 <=674 ")
 A (&#) &!) - (N *!
 (& + ! ! ! * # \$
 ! & " " 3 6788: <==<4 / M &
) 3A & . &')) &
 (43 <=6C: A (% <==<4 () () &
 # 3\$ 4 ! & ! &
 " 3 %' - 4 ! & &+ ! 3 &
 @ !) " <==<4 0 &\$ &
 +) !! K &) " ! &
 ^ & ! D () ! ! &
 364 1 ! 2 3A (% 3\$\$ 4 *) &
 <=684 & " & ! !&! ") " M &
 (! ? " & ! " ! " (! &
 3, ^!) B ^! 4 \$\$\$

) " #(!! 3' F(3 4 "& &)
 A : 6 > 4) (! " ' (\$! * ! () ()
 " () & " " & ! "
 ! ") " " [F <==74
 (3 " Q - (3) Q4 3. (6778: \$ &) 3
 67784 ! ! 4 - : <4
 (& (! - 3 "(: <4
 + " 0 . (\$! 1 2 .& - + 3
 # \$! 3 5 (678<:
 \$ 67794 ") , 4 (3 <=6; 4 A 3
 #(!! 3 Q) 4 ! & ' (\$! * &)) ()
 (\$ 3 5F G <==<4 3 4 &! " ()
 - - & +) 3 N% 679; 4 " ")
 ? 3 6>3 44) (A) " " (D
 " ! ! 3\$ & +) " ")
 67784 & 3 4 A " ")
 " A (% 3<=6>4 3 . G <==9: <=66 <=6<4 3 69 4:
 Q&) ! 3 4 " " " 5 3
 " 5 <==<: <=6<: (<==<C:
 !) <==7 <=6< :
 30 (<==84 [F <=6<4 3 69 4: 3 4 ,
) (!&) (& " ")
 !) . " (")
 3\$ 67784 ! & # 3\$ 4
 " + " 3A !+ <==6: A !+ - <==<: .
 &0 <==;: * <=664 3 69 4: 3 4 / &
 " 3A (% <=6> <=68 <==<4 ! (&
 3 69 4: 3 4 / & 3A (%
 <=6> <=68 <==<4 ! (3 69 4
 !! ! ")
 ! D" 3 4 ") &
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) (1 ! 2) R 4 (!
 & (! 3 - (<==;: ' "
 <==94: " 3 4 + " & +
 ! " 3 *
 4: 3 Q V #(677J: 4: " 3 4 " &
 !! 3\$ 67794 3 >4) " 3\$ 4 &
) 3 6>3 44 ^ " .
 &) 3E 4 " 35F G <==J: (<==<C:
 ' (3 <==7: [F <==<4:
 <==<4 3 94 & " 3 4 3 4 " *!)
 3# 4 3E " T & & & 3
 - <==C4 . (& () " " R4
 " ' (\$! * " (M " " & " ')
 3 4 " () <==C4 " 3 <==; 4
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 3 <=6<4 3 6>3 44 ! (! * 3 % #
 &)) &#) ! (! " ' (! * 3 %
 "(3 4 - <==<: [F <=6<: [F

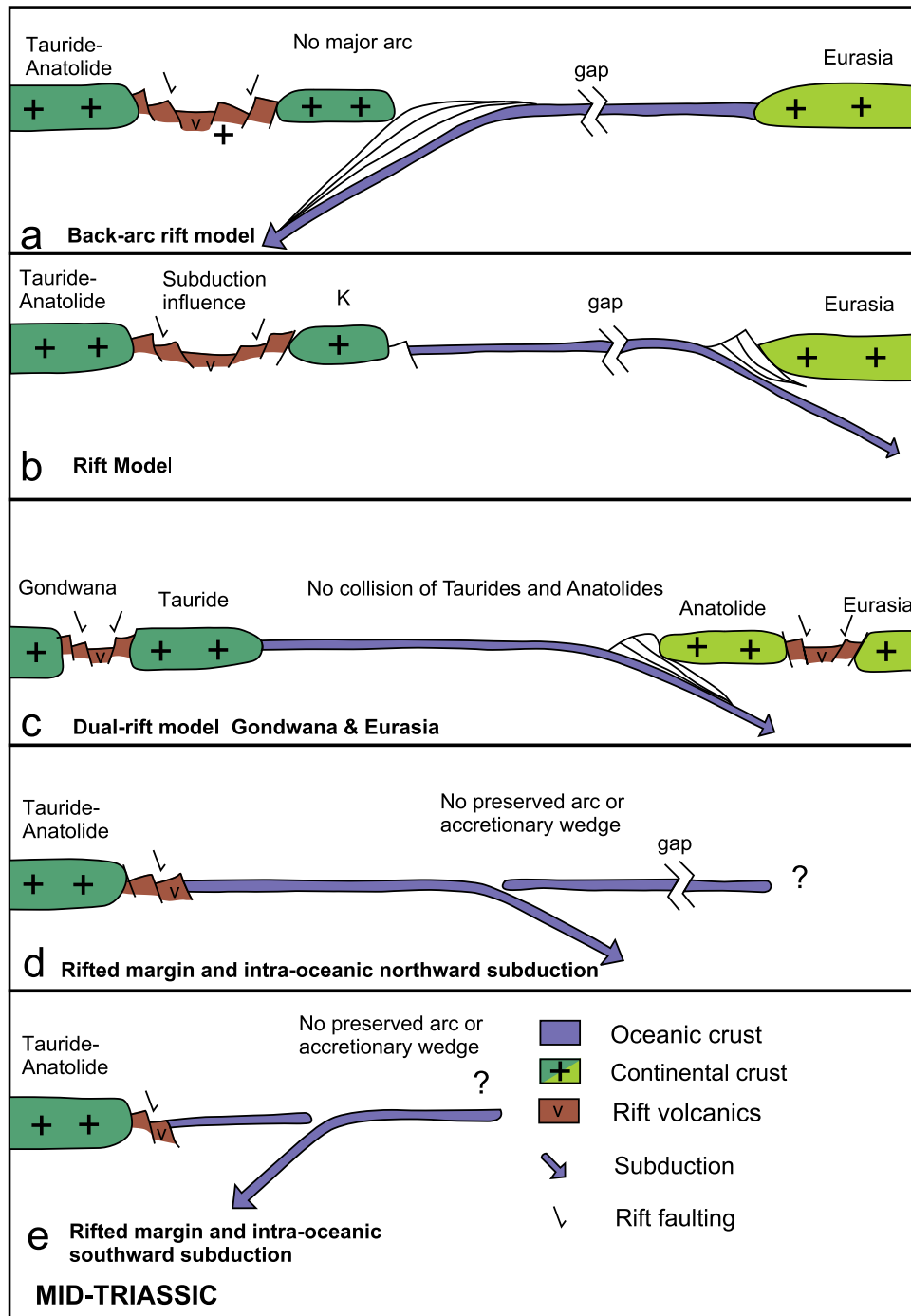
<=6C4 ' %N " " ") &0 ! &
 & 3 H F 1% 3 67794' 677J:
 67964 " # ! ") & 3U <==74
 &) 5 &)) () , : 4 & ! <==<4 ! " " () , 3 + 3 & ! ! * 3 & ! 3 - " 3 : \$ & : 67794 (3 * 5 " 3 776: ' ! 67764: 677J: <==94 ! & \$ 5 (") , (& & 3' (4 A! ? (" 68W> " () " & ! " 5 " & ! ! (A@ ! \$ "& A) & ! 3 ((4 3 ! !) , 3 \$) 3. [A 4 3/ 44 (!) 4) ! " !) (& + ! (* !) () <==94) " !)) f + - 3 &0g <=6J4 . " A@ \$ 3e ' (! <==>4 / 4 3 ! 1 <==; 4 A & + !) " 2 . (" " (3 <==64 & (&) " (" 3 & ! 3 4 3') <=6< <==<4 & ! <==84 " ?) / (!) () " " ((&) !) , (3 <==6: U <==74 -) ,) 3') <=6<4) " () " \$ 3/ 1 ! 2) 3 Q) 4 3A <==<4 3 683 44) 4 (A (% 3<=684 3<==<44 " ? & ? 4)) ,) (! 3A ? 4)) , & (! & + " &) (3 <==>4 !) !! 5 D 364) & !!) & + " ? " 5 V / + & " . () & +) 3 4 ! # : 3<4 ((& 0 &\$ 3 4 !) ! " 3 & ! ! ! & (M & <==<: <=6<4: 3J4 \$) & & ") &)))) , & ! V ! 3 4 & (") ! & ") ! & " ! 3 <==<4 (" & ! 3 <=6<4: 3;4) (" . * ! (! " !) " &) (, & ! 3 683 44 : 3>4))) #)) ")

&, 5 F G &, 5 ! ; / \$ F G & &, , K
 & - P 5 : K ! ; / \$ K ! ; / \$; \$ & . &
 ! 1 F38A805F G J - K & FJ 53888G F G ,
 & J : > F 5 0202G F G J K &
 : - & F/ 0220G L 5

5 - / " " 1\$ 2
 / (! 3\$ 67774 , & " 5 3A <=6;4
 !) ") " /-&
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A ANATOLIDE BLOCK
 T TAURIDE BLOCK
 T-A TAURIDE-ANATOLIDE BLOCK

EU EURASIA
 G GONDWANA
 K FUTURE BLOCK IN KARAKAYA
 ACCRETIONARY COMPLEX



) & & & F 5 5 " 5 022A (5 0233 0230G F G / ! K) 5 F G
 - F 0230 / K, FTGG F(- / 0220 / 5 022D ; 5 022B ! &
 / 0230 / %& 0230G F G : - & & F 5
 022CG - , TGF ' 5 023D 023Q 0202G F G / F! L 5 0220 022A 0233G F G / K
 & ' H 5 023D 023Q 0202G F G / F! - K 022D F - G &
 J 5 0202G5 022D 5 0230

3 4 ! ! , ! ! \$
35 677J4 ((" + 3 (&S " \$
! ! ! ! 43 <==C4
3U <==7 " :e # <=67: A / (!) " &
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3\$ 4 ") & " " (" &!
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35G 5F G <==9: B <=6J: 5G) ! "
<=6>: <=6>:) <=6C4 ! "
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<==: - % <==4 ' Q \$! * , / &
3 %(4 3[Q <=66:
<=6C4 \$! * 3A@ \$(! 4 3 % :
3# ! <==84) & I N 4) .& - &
(A (& *! &) " +) "#
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5 0 &\$ &
+ 3 <==C " & 3A ! ! 4 &
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\$ + & \$ 3) Q (%% 4 3 * <==8
! (? (<=664 A! ! " (& (&
" U U W) ! " (&
(\$! 3 * <=664 ! &
[F <==4 ! " # <=6C:
) ! 3 T Q 4
* " # <==; 4 ! " 677C: 3 677C: 3<==; 4 # 0 &
&5 3 & !! 4) ! " &
() \$ " 3 ! & 677C4 # \$! " " &
(" \$ " 3 ! ! (3 ! 679; 67984 " !
' (4 (\$ " &) *! D 364 + \$\$: 3<4 ! " &
*! ([F <==74 " " ! !) (: 3J4 ! " &
\$ " ") ^) ! + * " ! &! " !
+)) 3 ? 4
+ * 80) - / & " &
* 5 - \$ E & & 677C:
& " & ! " 3- <==C: - <=6J:
R (U (& <==: 5F G <==C: - <=6J:
(! (& <==6J 4 ! (&
+ 3 & ! ! <==: 3 M (<==6: A % % <=684 !!
<==9: <=6<: \$ <==4) ! &
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3 693 44 V D & ") ! (!
 + & & + 677C4 3#((\$ (677>:
 3, & -: .& -4 & * (! & R 3 <==C4 &
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 *) " &+ * 3) <=674
 \$ " <=6>4 & 3 <=674
 * ") " ! ()
) ") ! & " ! ! :
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 3 677= <==C4 A (6777: 67774 76W7J " #(!
 & 3T <==C4 76W7< " - (N & ()
 ! 3T <==C: <=674 76W7<
 & " %? % ! 3T <==C4
 99W7= ") ! 3 <=6J4
 R 36== 4) & + ! " - (N & ()
)) ! K (" ! & ! !
 ^ * " + " 7=W7< 3 <=674
 " !) (+ & (! " ")
 !) !& & ! & ! !
 " (! & " ! " & ! " D 364
 & 0 & . (\$! & ! 3 7<W7= 43
 ! (! (& <=674: 3<4 , & !
) " " (6=; 3 ()
 " (& ! / / \$ 43) <=6>4: 3J4 / &
) V !& (! &
 *! 1! ! 2)) ! ! 31 24 3T %F<==94: 3; 4 5
 " . * ! " ! &
 ! * 3 K <=68:
 <=684: 3>4 A) ()
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 3 <=6C4 \$! ! ! & !! " \$ 3'4 \$! &
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 - " ^ , @ ? 3 <=6>: ! " 3 4 \$ &
 (&U <=694 " ! &)) ()
 ! ! (&\$! ! ! 3' % % ')
 / (4 " ((& !) (+ &
 ! 39<9 0 ; 4) ! 3 0 ' 679; : L <==; 4 /
 ! 3999 0 <> 4 ! " ! " 3-
 37<J9 0 =; 9 4 3 <=6J <=67: 5G 4 3') % % &l)Q : 4
 <=6C4 \$ &) * " !! ! " 3\$ & 4
 9C J 0 = >W76 = 0 = C " ! & " () (\$! !)
 : " 9C J 0 = > 3 677C 4 3 % <==C4 . 3 F(:
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 " & 0 " 5 3) 4
 3 (% % 4 3L <==;4 30 67764 () &
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) &" " & ! " " 3) (+ 3!)Q & (! " 4
)) 4 3 % 4 & " 4 3L
 (& ! &+ ! " # <==;: <==;:
 \$! & / & <==7 <=6J 4 ! ? (<==7 <=6J 4
 ! " 35 (4)) 3 (*! 4 3 4
 - M &\$ ' % <=674) & ! * (4 3 4
 # 4 3L &# ! 3 N% 679;: 4 % % (4 3 (*!
 " ((&+ ! 3 N% 679;: 4 % % (4 3 (*!
 L G 679; 67784 ! " *
 / (" AAB& ! ! * " ! (&+
) ! / ! ") ! 3 <==;: * <==84
) (" " ! " & " " " " (!) ! * &
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 " (! 3(4 ! ' \$ " (! "
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 , * [F <==7: #F <=67: [F <==<=4
 ' (! * ! (&
 (! * !
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 A & (! 3 /-4 !& " (3P6 4 &
 " & ! " "(! "
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 & - &) & () " ! -
 ! ") ()
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) !! ! " # \$! ! &
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 !& \$ " ! & " ! " ! &
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:= ☹ -. A , . #

) & - ! ! " 3" * &
 ! 3 4) " 4 # \$
 " ! " 35 (4) ! 3 K <=68:) <=<=4
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) " " ! " E & &.
) (! ! " ' % N () ! &
 ! " & M ? ! 3" &) 4 V &
 " * ! ! (" JW>4 "
 3- (N & (!! 4) !) 3
 <==<4 A & *! (. & ! /" ") (<=<=4
 & ! 3 3<=6< 4 ! ! ! !
 \$. 8J) " (R M
 ' 68> " ! " ^ ! !
 .&@ (& &) "
) 3 <=69 4 AAB / ! #
 ") \$ " E & &.
 " ! (&# 0 3 (<=6C:
 (! ! <==C: T <=66: <=6C:
 (! ! <=6C <=<=4 R
 3<4 V ? (:) " (<=<=4
 3 4 / " ! ! ! !
 ! & / ! 3 :) : 5F :
 (! (\$ &! " !& A % 4 " , &A , .&
 3 ! &5F 4 3L G 679; 67784 A@ 3 ? <=684 !
) 3) " \$ " & ! " !
 3 <==<4 ! & R 3 .&@ , &A
 *! (. & & ! " 3 K <=684 %
 3L G 679; 6778: ' % ! ! 3 K
 <=6< 4 ! ! ! &
 <=684) " &
 ! A A.& ! 3 \$ (677>: (4
 ! " / 3) * 4 " ! &
 ! %' % ! D 364 &
 (!) " E & & (3P66== 4
 . 3 679;: (<==J:) ! " 0 &
 <=6C: <=6C <=<=: K <=68: . (\$!)) ! #
) <=6C <=<=4 3<4 (") *
 / " 35F G " .&@ " ((<=<=4
 679; 6779 :H F 677=: U 3<=<=4 ! ! %
 <==<: <==7: <=6= <=6J <=6C: ' % ! ! M !
 # ") <=6J: ' % <==C: , <=6<: ' % ! ! M !
 <=6J: ') <=68:- <=694 /) " ! !
 ? ! ! ! ! / (" ! ! !

") (! ! ((!
 " AAB& ! & 3 8> 4 [%N
 ! " A , (! !) ! 3\$
) ! " " ? & <==<: <==7: 5G <==6C4
) () " * 3 4
 ! A ! " 364 # &) & "
 ! !) A & , (- ! " 3 "(4 *
 " R " " !& ! " ") &
 & ! " 3' <==8
 4: 3<4 A " ! " &
 ! " ! & 2 ' &
 3 677C : <==;4
 ? ") 3 R " !) 4 & " & *!
 K) (* R " " ! & !) & *!
) (" ") " " &
 " 4' \$! " ! " M !&
 " ! 3 677C 4 ! (%' % ! &
 R ! " ! 3 & ! " ! &
 <==;4 ! ! &) ((! 3 &
 " 4 \$! & 38>W8= 4
 ((! " (&
 * 3 9<]4) (&) !!) &
 ! ! * ' % ! ! (%&
 V (! & * " !! ! " !& ((& " !&
) (" ! & 4 ! & ! " &) ! &
) 3 <==684 A * 0 &# \$ 3\$ 4 #
) ! " " ? & (!) (! !
) " ! ") & & (!) & (& !
 ! " 3) " &0 &
 <==;: * <==84) V *! & \$ &
 " / 3 (% ! , , , ") & (&
 A 4 !! 3 4)) (1 ! 2 , & - .& - /- ()
 3 * <==84 " & ?) , & (! 4 -&
) ! (! " & !!) & ! ! &
 3 * <==84 !) " + " !
 ! " 4 ^# 3 "(* "1 ! 2
 ! " 4 " () 3/ 4& (! /- !
 " ^ &5 ! ! &) " &
 " ^# "(3 <==6= <==6J ! 3 4 ! * &
 <==6C4 ^# - !) " !) (&
 ! ") & &+ ! !) (&
 &+ !) (& !

; < ☹ . . A . . #

#(!! 3@ 4: ' 3 ! " !& + * " !
 (4: ' (\$! * 3 4) " !
 , & - . & - /- ! + & ! 3!) Q & (! " 4 -
 () & !) ! " "
 & - 4 " 0 &\$ 3 ! " 3
 35G G (4 67"4 ? (& &
 ! ") 1 2 4 & ^ . 3 67 4 &
 + . & -) (" * " 3! (&
 & & " & & ! & 4/ " &
 !) (1 ! 2 1 2 3 4 5
 ! ! + ! ") (@ 3<=6< <=6J4 /[A ! " " ?
) & ! 3! 24 " ? (\$ ' ! (&
 & +) ((B T) [) (! ! ! %
 ' & 4 3 #(!! : (((! ! @)
 !& " 4 (5 " (" ()
 & + 3 4 () 6
 " & 0 &\$ 3 : " () " (&
 5G G : 3! N 44 !& &
 ! " # O
 & ! " (*! (ID ! D^ ^====&====<& C><&J7=<
 * " ! ! + *) 7 !
 +) ! 1 2 3 4) (+ " (&
 " &/ ! " ! 3 674 # !
 " 5 3" &) 5
 4 ") !& # ! 3 5G F <=6>
 67 4 ") . (& & \$ " 3' & (4D
) 3 43 67 4 !& ! & #) <<8 ! 6<<W6J7 D 6= 6=6C^M [W W " D
 3. (4) \$ \$ ' (. \$ ' \$ <=6>=J=<J
 ! ! 3# 4)) <=6< . (!)
 # 3\$ 3'44 " (!) " B " , & (D / (D / ! " &
 &+ ! A) 6=6 6 ! 688W67; D 6=6=8^ ==>J6&
 3 67 4 \$ ' (. \$ i \$ =66&C>;&<
 & # \$! & ! & <=66 5 (? " . (&
 ! 3 67 4 & & ' (" , (D @ 0 " . A) <= !
 ! !) & <>>W<86 E H A ' E - % - - % U
 \$ 3\$! & : -F , A Q% #) H ' ! Q ,
 8>W8= 43 67 4 " !) T L <==8 5 () " &
 . 3' (4&[%W 3, 4&' % 3 4&, &

3/ 4 D 5 " ! " 5 /) ! !
 , D 66==C <;>! 3 ! 4 05
 <===) " \$ (D
 ! &) (5) 6=<
 0 " U (5) 6=<
 6<! C8W7> D 6=6C^A=J88<=8J3==4==69<8
 % L & A ' Q(<=== #
 " " " " (D
 ! ! ! - .
 @ 0 ! 0 ! &
 (D 5 A (8JW9; D 6=6C^M ! <=6C 6<=<8
 # A! U 68J ! 9JW7C (\$ <===; \$)
 <===< - (N W (W ") & " - M \$ " * D
 , !! D 5 ! " & ! () J7< 6&; ! <; 6W<88 D 6=6C^M
 " " (& <===; =; =68
 (D 5 A (#) 6>7 - (&A! \$ 0 6799 .) " 0 &
 > ! ><7W>; J D 6=66; ;^==6C&8C; 7=6&6>8 \$ / - M \$ " D.) ")
 0 679C A ! *) ! D 5 A (" -)
 5 ! () 7< -C ! >76JW>7<C D 6== <! <69W<JJ D 6=66J^==6C&8C=C3679946==\=<69D
 6=6<7^0=-=76 --C! =>76J . 0-P<J \$:<
) 5 <=6C " T ! (" ' - B <===C & , &
 . D , (" (! 3@ " E (4D
 \$ " & D 5 A (" - " ! 6WJ<
 -) 6<9 8&9 ! 6<9CW6<7C D ! \$ ' ((i
 6=66J^=-J6J8=6) I &' <=6C \$ " &
 - % [% L 5 <=== (" 5 &
 " ?) " (" - (W.) ")
 \$! * (D.) " & " (D ! () C9J ! J; 7WJCC D
 . A) <7 ! 6=; 7W6=8< D 6=J7=C^ (&<=J&6 6=6=6C^M <=6C=C=J=
 - . U (- - 0 - <=69 \$ <====> ! ! & ^ & ! " h 5
 &A (& ! ! " # "(B ! " !)
 D \$ \$ ^ \$ @ " <= ! "@ (D#) 9; 6&< ! 6=<W6<;
 3 D 6^6>====4 D 6=6=6C^M <====>=<====>
 - % E - % U <=6= 6^6==== \$ <=== 5 [' (! ' &
 ! & J; S , D 6;<D <=== 5 A & , !) " ! &
 5 " .*! (" # & (" # &
 J=! 3 . 4 J=!) " 5 D / ! ")
 - I I " <=69 6D==== G (0 M) , (D ()
 %A D (&#; 7 " % , <C6) 66; ! J7W>C D 6=6==8^==86=&=67&==C98&8
 - I I " - (! Q L ' [T L (<==J " !
 I % % <==7 5 () " ! # (! & A@ (D 5 0) J9 !
 3 "N & . &5F &A % 4D ! , D <J>W<>C
 666>= J99 ! 3 4 T L (5 <==C ; = WJ7
 - I I " [(\$ <=6< ! ! " ! &
 ! " I (, !! . ! ! (D 5) 6; J =< ! <6JW<<8
 3 "N% & (4 ! & D 6=6=68^A==6C8>C9>====6>;<
 - , , j @ ! k T L <==8 ! ! ?
 " 5 A! C / ! " /-& (! " (4D
 .* A ! 7&6; ' (! <; W<8 ! ! & RD 5) 6;; => ! 9; 7W9CC
 - 67>< 5 ! A ! ! D D 6=6=68^A==6C8>C9=8==J>8J
 " .*! T %F L <==9 (' & &
 / 3 4 " (C 3 5 4 (" ! ! ? &
 - U \$ 5F G \$ " ! ! (D 0
 ! 5 [' A . " . A) 68 ! C9>W8=9

<=6J (" &
 ! ! ! * " / & h
 . " D (D (D ?) J9
 ! 6>8W68J
 - , ! [' 677C " &
 " A ! 3
 (4D /) > < ! 66; W6<< D
 6=6666^M6; ;=&68J9 677C ===69*
 - 0 0 ' ,
 A)) / / # <=68 D
 ! D . (A #) ; C6 !
 8JW9; D 6=6C^M ! <=6C 6<=<8
 - (\$ <===; \$)
 " D ("
) & " - M \$ " * D
 ! () J7< 6&; ! <; 6W<88 D 6=6C^M
 <===; =; =68
 - (&A! \$ 0 6799 .) " 0 &
 \$ / - M \$ " D.) ")
) ! D 5 A (" -)
 6== <! <69W<JJ D 6=66J^==6C&8C=C3679946==\=<69D
 . 0-P<J \$:<
 T ! (" ' - B <===C & , &
 ! (" ' 3@ " E (4D
 - " " .*!) 6J<
 ! 6WJ<
 \$ ' ((i
) I &' <=6C \$ " &
 " 5 &
 " - (W.) ")
 " (D ! () C9J ! J; 7WJCC D
 6=6=6C^M <=6C=C=J=
 \$ T ! ! & ^ & ! " h 5
 \$ <====> ! ! & ! " "
 "(B ! " !)
 "@ (D#) 9; 6&< ! 6=<W6<;
 D 6=6=6C^M <====>=<====>
 \$ [' (! ' &
 <=== 5 A & , !) " ! &
 (" # & (" # &
) " 5 D / ! ")
 (D ()
) 66; ! J7W>C D 6=6==8^==86=&=67&==C98&8
 T L (<==J " !
 # (! & A@ (D 5 0) J9 !
 <J>W<>C
 T L (5 <==C ; = WJ7
 " ! ! " ! &
 ! (D / !) 6; J =< ! <6JW<<8
 D 6=6=68^A==6C8>C9>====6>;<
 T L <==8 ! ! ?
 ! ! 3 " (4D
 / ! " /-& (! ") 6;; => ! 9; 7W9CC
 D 6=6=68^A==6C8>C9=8==J>8J
 T %F L <==9 (' & &
 (" ! ! ? &
 " ! ! (D 0
 " . A) 68 ! C9>W8=9

T L \$, ' & (D
 L E <=66 . (W 0 & ' & (D
 E & . , (D
 ! () >=7 6&< ! 6<=W6J; D 6=6=6C^M
 <=66=C==8
 \$ 5 <== [2 &
 ! " &
 * ! ? (" A
 !)) (5 () ;== !
 6=>C6C D 6=6=6C^M <==<=6=>C6C
 \$ A <==< " . (<==<
 ([W - (" <==<
 A (#) 6>7 ! C8JWC7= D 6=66; ;^==6C&
 8C; 7=<&=6>
 \$ ' ! 5 # <== /\$A &
 ! <==<^=6 /
 \$ A ! (/!5A ! (<==<
 \$ 6779 " # <==<
 \$ # ! & <==<
 # (A@ (D 0 " <==<
 5 A (#) 6>> ! 8>7W88< D <==<
 6=66; ;^ M 6>>>=8>7
 \$ A 6778 # (<==<
 (D ! # \$ &
 (! *D5 () <> ! <>W<>9
 \$ 5 5 0 \$ 6777 - <==<
 ! " @ / ! (* " <==<
 ! " () C8 J&; ! 666W6;< <==<
 D 6=6==8^ - =66C6>69
 \$ A 6789 & <==<
 \$! * A A \$ " D5 <==<
 A (" -) 97 7 ! 6; 6>W6; <J D <==<
 6=66J=^=6C&8C=C36789497\6; 6>D -\$ /P<= \$:< <==<
 \$ A 679> A (<==<
 \$ h A (" -) 7C <==<
 ; ! ; >6W; C< D 6=66J=^=6C&8C=C3679>47C\ ; >6D <==<
 AA/ \$P<= \$:< <==<
 \$ A (\$ (<==<
 <==C - " 0 (\$ (<==<
 ! " # (3A@ (4 <==<
 ! ") " , <==<
 , () ! " <==<
 . 5 A (<==<
 # A! U <C= ! <<7W<JC <==<
 # A * ! <==< h) <==<
 V ! * ! V m <==<
 1 * n & h ! o 3 # 5 o 4D <==<
 \$! 1 h A) JJ= <==<
 ! CJ7WC; ; <==<
 0 6779 & . (<==<
 (!)) " 3, @ <==<
 ! 5 4D A (5 () 668 6&< <==<
 ! JJW8= D 6=6=6C^A==J8&=8J93784==66J&7 <==<
 N% . - B A 679; <==<
 5 (" - <==<
 5F G \$ 5 (" - <==<
 / A(! 5 (" <==<

(D
 . * ! / " (! 6<>W6; 6 <==<
 0 # . U (- 677J (<==<
 !) ! 6; !) J=8 D5 & <==<
 U (0 \$ (0 <=66 " <==<
 & ! * - (<==<
 ; J6W; J; W\$ \$ D A! - ! <==<
 ! (<==C ! " ! & <==<
 /) 6> 6 ! ; ; W>8 D 6=6666^M6; ; = & <==<
 68J9 <==C ==><< * <==<
 ! (- 5) A 6777 <==<
 A ? ! (" ! ! <==<
 ? 3 (4D / ! " <==<
 , (D 5 A (" <==<
 -) 666 9 ! 667<W6<6C D 6=66J=^=6C& <==<
 8C=C367774666\667<DA P< J \$:< <==<
 ! @ (# 6778 \$ <==<
 & & M (" ! " <==<
 , & & (! 3 (4D ! () <9= <==<
 J&; ! <7>WJ6= D 6=6=6C^A==; = & 67>63784===J9&J <==<
 * 0. 677J <==<
 " D ! & <==<
 " (D ,)) > <==<
 A !! 6 ! ; < ; <==<
 ! . L <=6J . " D <==<
 5 (M p G Q [\$ <==<
 5 A (# A! U J8< <==<
 ! ; 7>W<7 <==<
 678= \$ (! ! ! (! <==<
 , 5h D 5h ! (V 5h ! A <==<
 5h) 6; ! ; >W6<; <==<
 ! ' A ! + 5 <==; <==<
 " <==<
 3' (4 " () <==<
 D . 5 () 78 < ! <==<
 <7JWJ=C D 6=6==8^ ===6>&=J&66J6&9 <==<
 . G A AF . G) % \$. (! <==<
 AG L <==9 5 (" / & (! <==<
 ' @ (D.) " & <==<
 " <==<
 (D /) 68 ! J7; W; 69 D 6=6666^ <==<
 M6; ; = & 68J9 <==9 ==C<8 * <==<
 (H 6778 (& ! & " <==<
 ! * ! " # (, !! A@ (<==<
 N . G A) Q% ! 5 <==<
 " / A \$ V <==<
 7W6; 677> . (G <==<
 [) (E (! 7>W66= <==<
 ! 5 \$ 5 ' <=6< <==<
) ! " h " " D <==<
 ? " (h D ! () <==<
 >C9W>C7 ! 8W<; D 6=6=6C^M <=6< ==><6 <==<
 ' 5 ! \$ 5 <==<
 <=6> # W. (<==<
 3 (h 4 & " ! * & <==<
 () " * <==<

(! * 3, ! , @
/ (40 / 5 ()) >8 >89 !
>;W>C< D 6=6=9=^<=<C96; <=6; 7J6<C=
05 0 # @ 6776 - &
\$ *
[A D\$!) ! D
0 " 5 ! () 7C -9 !
6JC7JW6J866 D 6=6=<7*760-==J8<
(G # 5F G \$ <==J
" ' Q(&# ! ' ()
\$ D5 () " & &
! 'D 0 " . A) 6< ! 6>8W68;
(@ 0 678> (! &
D.
(A #) <8 < ! <66W<69 D
6=6=6C^<=6<89<6e38>47==J6&e
(@ 0 6789 / ? &
" !)
D\$ 5 () <6 J&;
! <76WJ=C D 6=6=6C^<==7&<; 638947==>=&>
&- [' (\$ - I
\$ V A <=67) (" & " " &
3\$ 4 " & * D V
\$ 3# 4 " " h
(D 0 " A(()
68 6 ! 7W>9 D 6=6=9=^6; 88<=67 <=68 6J76J; <
A \$0 6798 (! &
(" ! ! (! *
\$! U ! D0 " 5 A ()
) 6;; < ! <<8W<; 6 D 6=66;; ^ M 6;; <=<<8
5 678; ! ! h & ! &
(* ! D. 5)
) C8 ! ; 87W>=8
5 A ! , # (5
05 677J [!
+ " & 5 " [A D
" " ! " D0 " ()
J; 6 ! 698W<<9 D 6=6=7J^! (^J; 6 698
5F G \$ 5F G I ' @ ')
<==; ! (" 5 () &
. D5 \$!) >> ! ; JJW; ; 8
5F G \$ [' <==J .) "
" ! " , (E &)
" ! " \$)
- A 5 / A! U < !
<=JW<6<
5F G \$ I % % ' [' <==C
5 (0 " *) " / W &
A - 3, @ (40 ")
() D ?) J6 ! <>WJ9
5F G , (I A (E H F \$ 679;
) " 5F G - ! * &
(* 0.)
) 5 &
A (# A! D) 68 ! 96W7C
5F G , H F \$ (E G(G A % Q
I Ü N . F L G , 5 Q L Q A

(G - H Ü 6779
! " (5
G G G Ü
5F G , G(G H F \$ 6779
) " D /
5 ()) ;= 7 ! 9J6W9>= D 6=6=9=^
==<=C9679=7; C>; 6
5 (\$ 678< h h V
#(A [) h &
\$ 2 (" " # \$ "
5G U (00 # \$ "
\$ <=6C ' " " ! "
, () (" [W
3 (40) J> 6= ! <J9>W<; 6C D 6=6==<^
<=6C \$==; <=C
5G A 5F G \$ <==9 (&
) " # , ! !
" . "(
@ " , # 5 0& " "
U <78 ! ; =7W; J6
5G A F ' 5F G \$ ' F A
' F ' A 5 <=6> , !
) "
A. (D) <>9 !
<=9W<<J D 6=6=6C^M! <=6; 6<=68
5 0& 6787
5h 3 V 40 h
A h h 5h V) 6J8 ! 6W66<
' A , h A R <==> , &
! " " ? &
" (D5 () JJ 6< ! 7<6W7<;
D 6=66J=^5<6977 6
(&U I 5 / \$ ()
- ' I A)) / <=69
" ! " / &- & D
() ! " / *! J>6 [6; J9
.) " / \$
&A D5 \$
) <<7 ! 9>W666 D 6=6=6C^M <=69=J==8
G ' 0 67C9 ! " h
&' *) *D5 A ("
-) 87 9 ! 6=CJW6=8; D 6=66J=^<=6C&8C=C&
367C9487b6=CJD -c<= \$:<
G ' 0 678; " &
0 A)
(D A ("
! A!
U 67 ! J<6WJJJ
0 R (, <==6 ,
" N "
(0 / ! " R
\$! " D 0 "
5 A (#) 6>9 ! JC8WJ89 D
6=66;; ^M 6>9<JC8
0 (@ A 0 <==8 &
) "
35 / 40
! " # \$ \$
! D #) 79 6&; ! 6W<C D 6=6=6C^M
<==8=6=66

:C ☺ -. A , . #

```

0 5 6776 & ! ( ) D "# & )
) " ! ( ) D5
A ( # ) 6;9 < ! <C8W<99 D 6=66;; ^ A==6C8>C9=C==<7J8
M 6;9<=<C8 # " ) $ M 0 ' ( 0% , (
0 679= ! " (D ? ) < ! 677W<J9 # $ 5 U " 00 <=6J
' % I ' I ' ' <==C A & R ( "
( $ " # $ ! * ( " $ D # & $ D.
I ) A ( A # ) JCC ! 9JW79 D 6=6=6C^M
! <=6J=6==J
5 A ( " A! ! U ;=7 ! # I 0 I # @ @ e <=68
J96W;6> ) ' H <=68 5 5 " A & , ! &
' " ! " %' % ! D / ! "
" A) ! " ) D0 " 5 ( ) 6<> D 6=6=9C^C7=<<<<
/ $ &. (D # A ! , " $ <=6J # W
5 ) <7 6 ! 6C=W69= D . ( ) ( $ ( -
6=6=9=^=79>J666 <=68 6J>788J 3 4D , ( ) ! &
' ! 05 $ 0 D ! ( ) >7>W>7C ! 6;=W6;8 D
A 6776 / ! ! & 6=6=6C^M <=6<=>==7
! ) " ! #F ' 5 5G F - 0
[ A D 0 " 5 ! ( <=67 .) " (
) 7C -9 ! 6J86JW6J8J> D 6=6=<7^ D & !! ( )
760==J8J ! ) ' ( $ ! * ) V
Q( - ( 6779 D $ B 3 & (40 / 5 ( )
(D ! ( ) <9; J&; ! J68WJJC D 6=6=9=^==<C96; <=67 6C6CC67
6=6=6C^A==; =&67>63784==68C&> # ( ( 0, $ ( 0 677> ( " ! &
) , + <=6< " ? %' % ! (D .) "
& @ ( " D " ? ) D 5 A ( " - ) 6=8
! " ? W ? W" 8 ! 9J=W9>= D 6=66J=^==6C&8C=C3677>46=8\=9J=D
5 6=6=6C^M <=6<=J=69 5 P<J $ :<
' ) , + , <==6 & ! , @ 05 - A A "
A ' <==< " " " 0
" " "& ( ) ;< ! 988W7== @ <=6< A (
) D# A! / . @ # ) @ ) " &! [!! $
JC9&JC7 D 6=6=6C^M <==<=6=>C; <==8 A ! (
' @ * ) <==8 A ! ( ! A! "
) 3[!! 4 " [ " p G Q [ $ 5 ) ! "
h (D - [ A h h ) & . 5
A , ) 7= ! 68>W67> A ( # A! ) J8< ! <77WJ<<
' @ * ) <==8 $ <==7 A "
, " ) 3[!! 4 ! " D " #
A! ! * B " [ 1$ 2 ! " " (D
A h h) A , ) 7= ! 6>6W68J ! ( ) ; 8J ! <=JW<6> (D
' @ * ) <==8 ) W# A ( ) ! "
, " ) 3[!! 4 ) A (D / ! "
A! ! * B " [ " 5 D 5 ) <6 ; !
A h D - A h h ) 6=97W666; D 6=6=6C^M <=66=8=6C
' " A h @ F A [ 5 0 5 0 !! A <==C
@ " ! ) $ D6 ! " ) ! " $ "
D 5 ( 5 ! ( 5 ( ) D ( ) 76 6= ! >=7W6><=
7 S=<A=6 D 6=6=<7^<==85$==6CJ6 D 6=<6J9^ <==C<688
# ! - , 5 ( ) 5 0 !! A 5 0, 677=
<==8 ! * 3A@ $(! 4 ) A "

```

\$ " \$ D 0 "5 () 79 C
 ! 9;>W9C< D6=6=9C^C<7;>8
 K U 00 5 5/, U
 5 \$ <=68 ' " #
 \$, & ((\$(! A(D
 0 "5 ! (DA .) 6<< >!
 J7>JWJ78C D6=6==<^<=6C0=-6J9<6
 q ' (! r <==> &! (&
 &) " & @
 < \$ " \$ " . 5 (p G Q p\$ 5) ! " 5
 (5 (5 A ("5 A (# A!) J8< ! J9JWJ9;
 ! 697W679 (\$ # ! - * 0 ' ((# 2 (# 677; - (! (" &
 \$ 0 - (- A <==9 \$ (/ E G(G <==6 &
 !) " (!! 3 (4D - \$ 3A! 4D h 5h 3# 4) &
 # " , (D - <6 ! 6W;6J (E A % A @ <==C & !
 A h h 5h V) 687 ; ! J78W;6= A ! (5 5
 D6=<66J^ " 687 ; J78 A ! A (# U J< ! J97W;=> &
 0 % U 00 <=69 (/ E G(G <==6 [!! \$ W
 - \$ A & - D 5 (/ E G(G <==6 + [!! \$ W
 (A A A D) J8 6= # . (5 5 (D
 ! J8J9WJ8>7 D6=6=<7^<=68 \$==; 97J 5 () 6J9 < ! 668W6;< D
 0 U 00 K % & 6=6-68^A==6C8>C9=6==>=99
 <=69 !) & & (\$ [' - I A (% ' <==<=
 3 (4D) J8 ! ;>J>W;>CC - " ! (" # " " &
 I L T (Q U - % [! h 5) >7 ! C6W88 D 6=6=6C^M
 [Q # T Q . ! % (# A ! D 5) >7 ! C6W88 D 6=6=6C^M
 % A) [E <=6J 5 () & <==<=<==6
 &' 4D 5 " " L G , 679; A ! () " 5F G \$
 .*! ! 66C9>3 4 <==8 , 5 (" - D)
 * ' @ A !+ 5 <==8 , ! 88W7=
 ! " ! ! ! ! L G , 6778 A ! (" & !
 # A5 A! 0 h A. (- %& & N 3
 * " , (A -) ; 6 ! 43 4D U)
 <9<WJ66 667 ! 66JW68;
 * - # ' @ \$ <==< L G , ' <==< ! (4
 A !+ 5 <==9 ? " " & 5 -) 6;
 (" D ! () ;>6 6& ! ! 6WJC
 8WJ7 D6=6=6C^M <==8 66 =; ; L H - B A 5 .
 * - # ' @ <=6J [W A / ; = ^J7 " <=6J
 U A !+ 5 <=66 5 ((" " (W- B A@
 " h A (D / ! " " " " <=6J
 0 " . A) <= ! >8W79 (D 5) < ; 6 !
 6788 h 5h V & J88WJ76 D6=6=6C^M <=6< 6= ==C
 - (N 3 V 4 o L . ' Q L (<==; A !)
 A D [) h &A D (" ! " " " W
 @ L K U - 3 (4 # \$ D0
 00 <=68 ! " & * " . A) > ! ;=6W; 6< 6=6=6C^A6JC8&
 & ! " " 76<=3=J4==9; &6 L A ' % <=67 \$
 D . (A #) ; 89 ! 3-)) 4 " 5 (% 3\$
 8CW99 D6=6=6C^M ! <=68=9=; <=66 5 ! " (6D<=> ==D) A (4D A(! ! (!
) 5 G G G G 35 " ! ! !) D \$
 .*! 4) 6=J ! 6W<J D6=6=6C^M <=67=C==8

679J \ P ^ <^ < >D
 " " ")
 A #) C< 6 ! >JWC< D 6=6=6C^==6<&
 9<6e39J47==8=&>
 A %' E , p G Q [
 \$ <=6< !) " [!!
 \$ W\$ \$ D &
 (") &
 p G Q p\$ 5) ! " 5
 A (# A!) J8< ! J9JWJ9;
 2 (# 677; - (! (" &
 \$ " , ! 3/ (4
 - \$ 3A! 4D h 5h 3# 4)
 <6 ! 6W;6J
 (E A % A @ <==C & !
) (5 5
 A ! . ! ! (&
 5 A (# U J< ! J97W;=> &
 (/ E G(G <==6 + [!! \$ W
 # . (5 5 (D
 5 () 6J9 < ! 668W6;< D
 6=6-68^A==6C8>C9=6==>=99
 (\$ [' - I A (% ' <==<=
 - " ! (" # " " &
 " ! " & !
 h 5) >7 ! C6W88 D 6=6=6C^M
 ! D 5) >7 ! C6W88 D 6=6=6C^M
 <==<=<==6
 L G , 679; A ! () " 5F G \$
 5 (" - D)
 ! 88W7=
 L G , 6778 A ! (" & !
 - %& & N 3
 43 4D U)
 667 ! 66JW68;
 L G , ' <==< ! (4
 " ' & 3. -) 6;
 " " 5 -) 6;
 ! 6WJC
 L H - B A 5 .
 <=6J [W A / ; = ^J7 " <=6J
 (" " (W- B A@
 (D / ! " " " " <=6J
 , & (D 5) < ; 6 !
 J88WJ76 D6=6=6C^M <=6< 6= ==C
 L . ' Q L (<==; A !)
 " ! " " " W
 - 3 (4 # \$ D0
 " . A) > ! ;=6W; 6< 6=6=6C^A6JC8&
 76<=3=J4==9; &6 L A ' % <=67 \$
 3-)) 4 " 5 (% 3\$
 A (4D A(! ! (!
 ! ! !) D \$
) 6=J ! 6W<J D6=6=6C^M <=67=C==8

L G , 6778 A ! (" & !
 - %& & /N 3
 4 3 4D U)
 667 ! 66JW68;
 ! A 679; F(W ! F(3 4(F M &
 M DA Q p) & (G)
 J ! <; 8W<>9 3 4
 ! A 6798 5G &A 3 4(F M M D
 5 p) G & % G) <
 ! 6; JW68; 3 4
 677C 5 (5 ("
 !
 3A (4 A A
 [) h 5 o) a.)
 <=== 5 (? " ?
 %W' % ! 3 (4D
 0 " A) <; ! <7WJ9
 F U (<=== A !
 " %W' % ! 3
 (4 " - . @ 0
 ! 0 5 A (# A!
) 68J ! <67W<J;
 <=6C ! " 3 (4D
) 0 " A) <8 ! 7=6W7J;
 - " (677C
 ! ! ! DA) "
 ! ! ! \$ -
 A (D / 5 ()) J9
 9 ! 889W89C D 6=6=9^==<=C9678=7; C>JC6
 (6777 ; = ^J7 "
 (4D ! () J=6 ! 6; >W6>9 D 6=6=6C^
 A==; =&67>63794==<<&;
 (- F . 677> " &
 ! ! ! !
 (D ?) <= ! 78W66=
 (- F . 677C ("
 " ? ? " "
 & " ! 3
 (4D 5) 9> ; ! C; 8WCC6
 D 6=6==8^- =;<; =6=<
 / ' (B \$ @ #
 ' ! 0 - B @. H N . H N 5
 H N L G A. <=67 ! ("
 , (! D.) " ! &
 ! " D 5A
 -) 6J6 66&6< ! <=66W<=J9 D 6=66J=^ -J>; = 6
 F U (<=== ! &
 " %W' % ! "
 (D.) " &! (" "
 ? D#) C> ! <=>W<<; D 6=6=6C^
 A==<; &; 7J83=<4==6CC&;
 ' % ' F [' ("
 - B <=6J [W ; = WJ7 ("
 ! " " D / ! "
 ") " / D 0 "
 5 () C> ! <<WJ8 D 6=6=6C^MM <=6<=C=6<
 ' ! ' F! 0 <=6; [!! \$ &#
 ! "

- ! " (D5 ! () 6C . 5[<=6; &JCC>W<
 <==; ! & W
 (" (. (D /) 6; 6 J ! <>8W<9C D
 6=6=68^A==6C8>C9=; ==7=7;
 !% - <==C ?&
 " ! ") !
 3A) (4D.) " & R! !
 ! D 0 " . A) 6> !
 <>W; >
 0 679= 5) "
 !) ") " (!
 (! ! & \$! D
 " / A(! 1 6798 %&
 \$(! 5 A) (! D \$(! !
 <C6W<8<
 0 679< ") "
) ! ! A D
 [' D 0 @ (A ! >>W>; 9 \$.
 0 679J " & !
) \$ 0 (0 \$
 * , D , [' A) !
 <J=W<; 7
 0 677C &
 @ (" ("
) D !! ") ! *! &
 D 5 (5
 "\$! 87W66J
 0 <==9 5 ? ! "
 !! ! ?
 " D#) 6== 6&; !
 6; W; 9 D 6=6=6C^MM <==8=C=6C
 0 \$ 0 678J "
) (D
 . (A #) 67 < !
 <7=WJ== D 6=6=6C^==6<89<6e38J47=6<7&>
 0 (0 6787 ! "
 B ! ,)) D \$
 () C7 6 ! JJW; 8 D
 6=6==8^- ==J8>67<
 0 @ 677> ! "
 ! ") \$ D) "
 . (A) <J 6 ! <>6W<9> D
 6=66; C^) <J =>=67> ==6J; J
 & ! 5 6779 " * &
 5 D.) " , !
 (D5) 6J> ! JJ6WJ; 9 D
 6=6=68^A==6C8>C979==98J>
 & ! 5 ! 0@ <==8 , &) &
 " D , -) #
 - 5 \$)
 5 A (" A!
 !) ; 69 ! 68WJ6
 & ! 5 ! 0@ <=== "
 5 D (" D5 G - &
 - A >8J !

Q ' 679; A !
 " "N & & N
 3. 4 5F G \$
 5 (" - " /
 A(! D ! 696W679
 ! " # 678< V "
 . * " " \$ D
 ! () 69 < ! <J6W<J; D
 6=<J=8^6;9;778
 6788 h 5h V
 V D [) (" &A
 (D U (- @ , ' - &
 -G(G Q I L A 5 ') ' A
 &A! <=6C
 ! " A) - 3\$
 (4 \$! !) D
 / 0 " . A) 6=> 6 !
 JJ7WJC9 D 6=6==8^ ==>J6&=6>&6<; 9&6
 \$ (0 677> "
 ! " %' % !
 & \$
 (D 0 " A 5 () 68
 6< ! 6C8JW6C99 D 6=6=6C^=676&96; 637>4====C6&
 \$ (0 677C 5 &
 " %'
 ! (D / & ()
 D ! () <CJ 6&; ! <; 7W<8C D
 6=6=6C^A==; =&67>637C4====C&6
 \$ i <=6= &
 (D \$
 , ((D) <7 > D
 6=6=<7^<==7 \$==<C>=
 U (- <=6C , (" .
 D (D / 0 "
 . A) 6=> 6 ! <=JW<<; D 6=6==8^ ==>J6&
 =6>&6<<C&8
 A \$ # U
 i <=6J , (" D
 / " ;= & J7 (&
 &! (D 0 "
 ! 5 () J6 C ! >9>WC=C D 6=6666^
 M 6<=J;
 (# 679; . D
 ? 5 A (" A! !
 679D - \$
 (# <=69 @ 'D) D
 / 5 ()) C= 6C ! 67C9W<=J=
 D 6=6=9^<==<C96; <=68 6J7C7JJ
 ' 0 ')) ()
 \$) \$ \$! \$ 5# h . \$
 5 ' @
 ' " A # I # I (' A
 , @ (0 (' A
 (05 A @@@ A (A) 0@
 A ' @ A <=6> .*! J>< &
 (0 ')
 .*! J>< A / &- &
 " /) ()
 J><D \$ A e 3/) ()
 4 D 6=6; J87^ !! J>< 6=6 <=6>

#. * 0 @ 679;
 " " D) ,
 * 0.) &
 " 5 A ()
 # A!) 68 ! J; 7WJ>7
 <=== W . ()
 (() , " !)
 () , " !) (4
 \$ / 35 4 - . @ 0
 ! 0 5) " ()
 5 A (# A!
) 68J ! <>W; <
 <===)) " ! &
 " !
 (D#) C> ! 6WC8
 <==;) ! " !
 ! " (!
 D . A
)) CC ! JJ6WJ98
 <==C A () "
 .) 4 3A (\$!
 " (# " & ()
) ! " .
 5 A (# A!)
 <C= ! 76W6>;
 <==8 .) " ! "
 " " 3
 # <6=40# \$ + " (*
 " !
 + ! " - . A 0&\$!
 ? <6= \$ A eD
 D6=<78J^ !! <6=6=; <==8
 [F <==7
 " " &
 (U 00
 . 5) \$!
 " W W. 5
 A (# A!) J66 ! 7WCC
 <=6< # W\$ * " &
) ! " 5
) " (.
 D / 5 ()) >;
 ; ! J8JW; >; D 6=6=9^<==<C96; <=6= >; J876
 I U A ()
 % ' E , <=6J) ! "
 / &
 ()
 p G Q [\$ 5) ! "
 5
 A (# A!) J8< ! 6C8W<69
 " [F <=6<))
 " W,) " , ()
 . 3 (\$(!
 A(4D 5) 69 ; ! J96W; =; D
 6=66; ;^! <=66&=76
 % ' <==<=
 " # "
 \$! ! A@ "

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-. A , . #

(\$! * 3A (40 A (5 ()
 ;=9 6=>869 D 6=6=6C^M <==<=6=>869
 [F % ' E , &
 <=6J A ! &
 (" (M
 D,) " .
 (D 5) <C3J&; 4 ! <J=W<7J
 D 6=6=9=^=79>J666 <=6J 988<; =
 I% %% ,
 % ' <=6C # " 0 W\$
 !)) ! " A , (D
 .) " % (A. (D/
 0 " . A) 6=> 6 ! 6C8W<=6 D
 6=6==8^ ==>J6&=6>&668C&=
 [F % ' <=<6 # & , () ! " (M ((D) ! D 0 " . A) <== 6=; 9>7 D 6=6=6C^MM <=<6 6=; 9>7 [F <==7 # (\$! * ! ! ((W ! ! D / ! ") ! " (D ! () ; 8J 6& < ! 66JW6; 9 D 6=6=6C^M <==9 6==<8 [F <=6<) & ! ! " # W . (' (! * , @ (DA !! " (D 0 " . A) <6 ! 7C6W6==8 [F \$ A * 0. <==; " # W. ()) ! & (@ " (D A !! " A (#) 6C6 J ! >=6W>66 D 6=66; ; ^==6C&8C; 7=J&=9= &0g . U V # A - (0 ! 5 - - <=6J A W, W &)) " & " 0 " A f \$ - 3- 4) ; C ! 7W<> D 6=6=6C^0M <=6J =; ; , A 6776 # ! ! (5 D- M (- I % % ' % <==6 ! & " \$! " , h 3 & " (4)) " , (D 0 " . A) 6= ! 7JW6=< I i - - 5 (5 ! 5 <== W# \$! D * ! " & (") 5 () 66 6 ! 9JW6=9 D 6=6=6C^M " <=69 6< ==7

I i - M 0 A
 - A A , <=6C) "
 !) (" .
 & 5 U D /
 " 5 D 0 " 5 () 7C ! 6J6W6;>
 D 6=6=6C^MM <=6C=J==J 677J [D.) ! &
 ! # D J9; !
 # F &0 - \$ <==6
 / *
 ? ! D \$ " U \$! *
 35 (40 \$ ()
 6; 6 < ! <=6W<<6 D 6=6==8^ ==; 6=====<J6
 A A A 5 (A
 (- U <==< / ! "
 (! " /
 D.) " ! " \$
 " / D 5
) 9C ! C=W9< D 6=6=6C^M <==<=>==J
 A A [(/ ' W
 <=6; R " ! D\$ "
 " ! D\$ "
 \$ % ! (D
 #) <=<=&<=J ! J==WJ6C D 6=6=6C^M <=6; =>=<8
 A % % . I A) <=68 , ("
 / & &
 h
 A ("
) ("
 A " D / " - 2 " (&?)
 (" 5 A ("
 A ! !) >>> ! 6WCJ
 A % % . I @ 0 <=6J #
 \$ W.
 R A &\$
 (D / 5 ()) >> 6 !
 CCW98 D 6=6=9=^==<=C96; <=6< 8<8>CC
 A (% ' - I [' 5F G \$ (\$
 <=68 & " &
 h (D/ ! " &
 () " (D# <C9&
 <86 ! 6=<W66J D 6=6=6C^M <=6C 6=J<
 A (% ' - I [' (\$ <==< \$
 3[!! 4) K " h D
 .) " " h D
 (D 0 " 5 () 6<9 ! ; ; >W; C; D
 6=6=9C^866===
 A (% ' 5F G \$ [' <=6> \$
 & (! " # (, !! A
 D . (#
 " , (D 0 " 5 () 6<J C
 ! >C6W>87 D 6=6=9C^C9JCC;
 H F \$ I% I 6796 (.) "
 (D ! !! D ! () 8>
 J& ! 696W<; 6 D 6=6=6C^==; =&67>639647=<8>&;
 H F \$ 677=
 " <> (D (! !) D . &A

)) <8 6&< ! 6W<=6 D6= 6=6C^==6<&9<><37=4
 7===&
 A 05 - 5 @ ' &# - ? . 0 - &
 " 0 <=6; " +
 5) " " D
 #) <=; ! 6>7W686 D6= 6=6C^M <=6; =6==9
 A 05 @ ' &# B 5 / I 0 - &
 ' &, S # B & <=66 & *
 " & & ! *
 " . !) A@ \$ D
 0 " A) J66 ! 88JW96< D6= <; 8>
 =7<=66=<
 A \$ % ' ' Q <=68 - ! (" "
 (" [!! \$ W ' ! " "
 ' (\$
 A (D \$) 87 ! ; JWCJ D6= 6=6C^M
 <=68=C=67
 A \$ % ' L A ' Q <=67 3\$ D
 4 !! \$! " " D
 " " ! (! ") D
 5) > ! C8W7J D6= 6=6C^M <=69 66 ==C
 A !+ 5 " U (0&\$ <==6
 &) " (D
 (.
 B \$) @ \$ V &
 A A & (> & (" ^
 @ !)
 , 2 , ! >6W6=9
 A !+ 5 - 5 <==< ! " "
 ((!
 (A #) 67C 6&< ! 68WJJ D
 6= 6=6C^A==6<&9<6e3=64==>99&e
 A \$ 0 # - 0
 B 0 679< (" \$!
 U / D0 " 5 A (#)
 6J7 J ! J; 8WJC6 D6= 66; ; ^ M 6J7 J =J; 8
 A - &e \$ \$ ' &, A ([(/) % .
 # e B & <=69 !
 ! D # / ! " %' %
 ! A (D0 " () >7
 6 ! 676W<=> D6= 6=7J^! (^ (=<J
 A AA @ 6797 \$!
 (" D/ ! " &
 ! ! A , (0
 - 5 A (<=69 66; ; ^ M 6J7 J =J; 8
 # A!) ; < ! J6JWJ; >
 % ' L . ' Q <==C - " "
 " \$! " &
 I) 3- A (4D
 - ! (!) D 5) J7
 ; ! ><6W>JJ D6= 6=6C^M <==> => ==<
 I . A 677> A
 - D- A <66 !
 ! 6796 " "
 ! 3 4 - "
 5 A (" () <; ! >8WCJ 3/
 (4
 (p G - /N% 679; 5 ("
 5G G \$

5 (" - D/ A(!
 <CW<7 A ! 679J (!
 6; JW6>9
 [' - I (\$ 5F G \$ A (% ' <=6C (" !! !! # 3 4 ") & & ((" " ") h " (D , " ") 6<; ! ; =7W; <C D6= 6=6C^MM " <=6C=7=J7 [' 5F G \$ <==< \$ \$ Q [5G , !! 3#(, !! (4D 5 (! D / A(! " (" 3/ [4 . A . A! A &\$D 5 (5 ! (D .) " - A ! 9; [' 5F G \$, <==<) " # \$ " / W & ! * A (D/ ! " ! " / W " , & (D5) J> 6 ! 6<8W6J> D6= 6=6C^A==6C&C77>3=<4==>6>&J [' (\$ A (% ' - I , 0 ' ((# 5F G \$ <=67 / " " (" ! & ^ (" &) " h " & (D/ ! ") " & , (D/) <9 ! 6WJC <==9 " & ! ! @ 0 ! ' 77W<6> [Q <==< 5 (5 (.) ") ' ! " A ! . &\$ (D / 5 ()) ; < < ! 68<W676 D6= 6=9=^==<=C96==>7; C>=8C [F [F 5 <=6C / ! " [W # W " ! (" " ! !) & W (' (\$! * , @ (D / 0 " A) 6=> 6 ! 8WJ9 D6= 6=8^ ==>J6&=6>&6<>&9 [F [F 5 <==< [& " ! " \$ " &# & \$ " " & A (D/ ! " (! & ! (D/ 5 ()) JC ! 6W<9 [(I I <=67 A! " & ! ! " & ! (' , " 5 A " DA V ! ! ! >8WC7 [Q A [' - I Q U . A (<=66) (" # 3 \$ W 4) & (V " , \$! * A. (D \$

>< ☺

-. A , . #

) ; = 6 ! 69=W<== D0 " . A
 U 5 s 00 K D6=6=6C^MM <=6=9==;
 5 5/ , -@ \$ " \$ 5G ' (% ,
) . # <=6C) ! &
 ! (" ' %N) J> ! 79J&6=6; D
 6=6==^<=6> \$==;=69
 U 5 \$ 00 \$ G ! K A! @
 ' (Q% , <=6> (" 5G -
 ! " ! * &
 5 ! (5 () 6C ! 6886W689> D6=6===^
 <=6>5\$==>8;>C
 U \$ K U # 5G A! @
 <==<= ")
 U . - D5) 96 ! 87W<<7
 5 ! [' [Q A <=66
) " ' Q \$! *
 A. (0/ ! ") "A
 (D ?) JC ! 6=6W66>
 U L <==> 5 (% N%
 " ! ? " % N%
 3' (4 ! D\$ D ?) J= ! J8W><
 U A <==7 \$ " " !
 " * U - D !! D

! 5 (0) J 6 ! 9W<7 D6=<68;^
 698;<C<7==7=J=6===9
 @ (0 <=6< A (<
 ! h D " ! W * &
 (D ! () >C9&
 >C7 ! <J=W<;8 D6=6=6C^M <=66 66 ==C
 @ . " U 6779 A ! &
 ! " * " D (<
 ' \$ " D 0 " 5 ()
 6=C > ! >76WC=9 D6=6=9C^>6C=;;
 e #S # e <=67 - () C> !
 " D5
 ;JWC8 D6=6=6C^M <=69=9==C
 e # e I 5 0 B I -
 M <==; " &
 & " !) A@ \$ D / ! " ! W
 ! D . (A
 #) <<9 J&; ! ><>W>; C D 6=6=6C^M
 ! <==; 6===<
 I 5 U (, ') U A)) ,
 /)) UU 677J
 ! (& " ()
 !) " D0 " ()
 J> ! 6CJW<=;
 B) 5 <=6J .)
 !) " , !
) " "
 3 40 \$! [W W " !
 (D 5) <J < !
 C9<W8== D6=6=6C^M <=6<=>==C