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b(*3H>@AAJ\$ "OK(1%- "'-0#%&)/(%\$ "0/4\$' ..(/-\$-0/4%)(-5)*\$#%*- "(%Oc%0*+, %15)#*3%#=(\$%0.%
0<()&().0)= '*/(%0.- "(% = ')4(-C%
!"(%&)(\$(*-\$51, % '#=\$-0%/0*)#E5-(%-0%-"#\$')(' %0.- "(%+#-())-5)(%E, % (2' =#*#*3- "(%
#=#&' /-\$0.%0#%&)/(% .+5/-5' -#0*\$%0*%- "(%\$-0/4% = ')4(-\$%0.- "(% 6789 : %H6)'N#F% 75\$\$# 'F% 8*1# 'F%
9"#* 'F% ' *1% :05-"% D.)#/'J% ' *1% !5)4(, % H6789 : ; !JF% ' % 3)05&% 0.% /05*-)#(\$% .0)% K"#/' "% #+--+(%
(<#1(*/(%#\$% '<' #+'E+(%H(C3CF% 9' -#4% (-% '+CF%>@>@F% ' *1% d5)-())#(-% '+CF%>@>AJ% ' *1% K"#/' "% #+--+51(\$%
E0-"%0#;#=#&0)-#*3(/0*0=#(\$%\$5/' "% '\$9"#* '% *1%8*1# ' "% *1%0#; (2&0)-#*3%0*(\$%\$5/' "% '\$75\$\$# '%
' *1%6)'N#F%- "5\$% (*'E+#*3%5\$%-0%(-\$.0)%1#..())(*/(%E(-K((*%-" (\$%-K0/' -(30)#(\$% B0)(0<()F%
05)%\$' =&+(%#*#'+51(\$% .#)=\$% K#-" %1#..())(*-%OK*(\$)"#&%\$-)/-5)(\$F%<')#05\$%\$#N(\$F% ' *1%\$(<()'+%
'<() '3(%1 '#+, %<0+5=(\$%0.-)' *\$' /-#0*\$C% !"#%\$/0=&')(\$% . '<05)'E+, %-0%\$5E;#*1#/(%#*#'+51#*3%
= '*, % (*-())#(\$% E5-% E'\$ (1%0*%)(%)#/#<(% /)#-()# 'F% \$5/' "% '\$% - "(% #`5#1#-, % 0.- "(#) \$"')(\$%
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: , \$-(=F% -"(% 0*+, % (2/(�*\$% E(#*3% =#*#*3F% 0#+% '*1% 3'\$C% _+; : " ')#.% (-% '+C% H>@PJ% .05*1% ' %
\$#3*#. #/'* -F% &0\$#-#<(%) (+'-#0*\$"#&% E(-K((% 0#+% &)/(\$% '*1% 0#+;)(+'-(1% \$-0/4%)(-5)*\$F% E5-% '+\$0%
1#..)(*/(\$% '/)0\$\$ \$(/-0)\$C% 60, ()% '*1% T#+#0*% H>@cJ% (\$#='-(1% '% =5+-. '/-0)% =01(+% '*1%
)(&0)-(1% -"-%-"(%)\$-0/4%)(-5)*\$% 0.% (*())3, %/0=&' *#(\$% ')(%&0\$#-#<(%, %)(+'-(1% -0% \$-0/4% =')4(-%
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$K''(0) = SP_1''$

8*1#'F%'*1%'*(3'-#<(%'1%\$#3*#.#/'*-%0*(%0*%- "(%.#*'*/#'+%\$(-0)%0.%6)'N#F%75\$\$#'F%8*1#'%'*1%
:05-"%D.)#/'F% E5-%*0*(%0*%- "0\$(%0.%9"#*%' '*1%!5)4(,0%!"(,%'+\$0%" '<(%'%'&0\$#-#<(%' *1%
\$#3*#.#/'*-%(..(-%0*%- "(%#*15\$-)'+'\$(-0)%0.-% "(%0#+;(2&0)-#*3%/05*-)#(\$%

-"(%-#=(;<'),#*3%\$-'(;&'/(%=01(+%3#<(*%E,%HPJ;HVJ%-0%#*/+51(%-"(./-\$%0.%(2/" '*3(%)'-(\$%
'*1%0#+%&)/(\$%5&%-0%#<(%+'3%\$H/0))(\$&0*1#*3%-0%-"(%#<(%K0)4#*3%1',,\$%#*% '%K((4JC%!"(%
(\$-#='-(1%-#=(;<'),#*3%&')' = (-(\$%\$')(%)\$%0K*%#*%T#35)(\$%A;PC%!"(%/5=5+'-#<(%\$5=%0.-%"(%0#+%
'*1%(2/" '*3(%)'-(%&')' = (-(\$%5&%-0%-"(%#.-"%+'3%')(%&+0--(1%' +0*3%K#-"-%"(%#)-K0;\$-'*1')1%
1(<#'-#0*%/0*#.1(*/(%#*-%)<'+\$%-0%'\$\$(\$%-("#)%\$#3*#.#/'*/(%0<)%-#=(C%!"(\$%)(%)(\$5+\$%')(%
3(*)'++,%/0*\$#\$-(*%K#-"-%"0\$(%0.%6'#%'*1G())0*k\$H>@IJ\$-)5/-5)' +E)('4%-(%\$F#%#%E0-"/'\$(\$%
<#1(*/(%E(#*3%.05*1%-'-%-"(("./-\$%0.%0#+%&)/(\$%'*1%(2/" '*3(%)'-(\$%0*\$%(/-0)' +\$-0/4%
)(-5)*\$%"<(//" '*3(1%\$#3*#.#/'*+,%0<)%-#=(%'*1'/)0\$\$\$(/-0)\$%'*1%/05*-)#(\$C%!"#\$%\$'+\$0%
\$5&&0)-(1%E,%-"(%1(\$/)#&#<(%\$-'-\$#/\$%.0)-"(%-#=(;<'),#*3%&')' = (-(\$%&)(%(*-(1%#*%!'E+(%WC%
8-%#\$%*0-(K0)-",%-"'--%-"(%-#=(;<'),#*3%/0(./#/#(*-\$%0*%-"(2/" '*3(%)'-(\$%')(%+)'3(%
-" '*%-"0\$(%0*%0#+%&)/(\$%#*%=0\$-%\$(-0)\$%'/)0\$\$%-"(%/05*-)#(\$%(2'=#*(1C%!"(%\$(-0)' +=')4(-%
)(-5)*%/0(./#/#(*-\$%')(\$%\$#3*#.#/'*+,%&0\$#<(.0)%'+%/05*-)#(\$F%-"(#)%(\$-#='-(1%<'+5(%E(#*3%
E(+OK%0*(%#*%=0\$-%/'\$(\$C%UOK(<())F#-%#%'E0<(%0*(%#*%-"(%/'\$(%0.-%"(%(*3,%\$(-0)%#*6)'N#F%
-"(%/"(=#/' +% '*1%#*15\$-)#'+\$(-0)\$%#*9"#*'F%-"(%

0.%@C@VV%'*1%)*3(\$%E(-K((%;@C@PV%'*1%@CII@C%L#%&#/#/(\$''1%'&0\$#-#<('1%\$#3*#.#/'*-%
#=#&'/%E(-K((%;>@AP%'*1%>@AVC%UOK(<())F%-"#\$%(..(/-1#'\$&&(')(1%15)#*3%-"(%90<#1;AV%
&'*1(=#/F%E(.0)(%E(/0=#*3%&0\$#-#<('1%\$#3*#.#/'*-%'3%'*%'-'-")E(3#**#*3%0.%>@>AK"(%#%#-%
)('/"(1%#-\$%"#3"(\$-#<'5(C%8%#!5)4(,F%0#%&#/#/(\$''1%'%*(3'-#<('1%\$#3*#.#/'*-%(..(/-%#%#-"(%
(')+,%&')-0.%-"(%\$'=#+(%&())#01F%- "053"-%-"(%/5=5+'-#<(%#=#&'/%0.%-"(%(\$=#-'-(1%&')'=-(-)\$
K'\$%#*\$#3*#.#/'*-%_2/' '*3(%)'-(.5/-5'-#0*\$%''<(%''1%-"(%3)('-(\$-#=#&'/%0*%6)'N#+' '*1%
75\$\$#'C%8%#-"(%0)=()F%-"(%(..(/-K'\$%*(3'-#<('1%\$#3*#.#/'*-%E(.0)(%-")>@Q%3+0E'+%.#*'/#'+%
)#%\$C%8%#-"(%+'--()F%#-K'\$%*(3'-#<('1%\$#3*#.#/'*-%-#++>@AAC%8*%8*1#F%-"())K'\$%'*(3'-#<(
'*1%\$#3*#.#/'*-%#=#&'/%#%#>@W%'*1%15)#*3%-"(3+0E'+%.#*'/#'+%)#%\$F%E5-%*0*(%'-0-")%#=#(\$C%
8*%9"#*'F%-"())K'\$%#*-\$('1%'&0\$#-#<('1%\$#3*#.#/'*-%#=#&'/%E(-K((%;>@Q%'*1%>@AAF%'*1%'
(3'-#<(%0(%15)#*3%-"(%90<#1;AV%&'*1(=#/C%T#*'+,F%#*%:05-"%D.)#/F%-"(%(..(/-K'\$%&0\$#-#<(
'*1%&('4(1%#*%(')+,%>@AcC%

T#35)(%>%\$"OK\$#-"(%)(5+-\$0)%-"(%

#*%>@@Q;>@AW%#*%75\$\$#'F%K"()(%#-%&('4(1%#*%>@AQ;>@AVC%T#*'++,% !5)4(,%#S-"(%/05*-),%

-"(%)>@@Q%.#*'#*'/#'+%/)#\$#C%8*% !5)4(,%-)'*\$&0)-'#0*%#S%-"(%)\$(/-0)%=0\$-%'1<()\$(+,%'..(/-(1%E,%
0#+%&)#/(%.+5/-5'-#0*\$%n%-"(' '<()'3(%<' +5(%0.%-"#S%&')' = (-)%#\$%;@CA@WF% '*1%#-%)'*3

/0(..#/#(*-F%0#+%&)#/(%) '<(%'%&0\$#-<(% '*1%\$3*#.#/' *-%(./-0*%-''(%()*3,%\$(/-0)%#*%'++/'\$(\$%
K#-''-%''(% (2/(&-#0*%0.%8*1# 'M% '%*(3'-#<(% '*1%\$3*#.#/' *-%#=#&' /-0*%-''(% .#* '%/#'+%\$(-0)%0.%
6)'N#+F% 75\$\$# 'F% 8*1# 'F% '*1% :05-''D.)#/'M% *0% (./-0*%-''(%-)'*\$&0)-'#0*%\$(-0)%0.% 6)'N#+F%
9"##'F% '*1% :05-''D.)#/'F% '%*(3'-#<(%0*(%0*%-''0\$(%0.%8*1# '%*1%!5)4(,F% '*1% '%&0\$#-<(%0*(%
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)(-5)*\$C% !''(% \$3*#.#/' *-%#=#&' /-0.%E0-''-''0\$(%<)'# 'E+(%0*%)(-5)*\$%\$533(\$-\$-''-'-% (*())3,;
1(&(*1(*-%\$(-0)\$%#*%&')-#/5+'% ')(%<5+*() 'E+(-0-''(%)#4\$%'\$0/#'-(1%K#-' 3+0E'+% =')4(-%
.+5/-5'-#0*\$C%90*\$(`5(*-+,F%&0+##/, = '4()\$K05+1%E(%K(++' 1<#\$(1%-0%'10&-%&0+##/(\$%#=#(1% '-%
#*#/)('\$#*3-''(%\$''')(%0.%10=(\$-#/' (*())3,%&)015/-#0*% '*1% '+\$0%-''(%)'*3(%0.% (*())3,%#=#&0)-%
/05*-#)(\$-0%=#*#=#\$(%)(+##*/(%0*%#*1#<#15'+%0*(\$

_+, '\$#'*#F%_CF% B '*\$5)F% 8C% '*1% L15\$'=#F% 6C% H>@AAJF% oL#+% &)/(% '\$"0/4\$ ' *1%#*15\$-), % \$-0/4%
)(-5)*\$qF% F%II%\VXX;VcWC%

O#\$(%)F% B C% '*1% O001K#*F% !C% UC% HAVQXJF% o9)51(% O#+% '*1%-"(= '/')0(/0*0=, \! (\$-\$%O.%\$0=(%
&0&5+')%*0-#0*\$%\e 0-(qF% F%AQHAJF%&&CVP;A@I0%

O03#*(#F% :C%H>@A@JF%oL#+% '*1%-"(: -/4%B ')4(-\D*%8*15\$-), %a (<(+D* '+, \$#\$qF%
F%WP%\VVP;A@A@C%

O0+1.'Y*F% 8C% '*1% Z ()+'*3F% :C% 7C% RC% 9C% H>@@@JF% o!"(% G'\$;\$;! ")053"%.)0=% R(&)(/#'-#0*%-0%
8*.'-#0*\D%G'*(+%; -51, qF% F%e 0%\PC%

U'=#+0*F% ?C% RC% HAVQIJF% oL#+% '*1%-"(% B '/')0(/0*0=, % \$#*/(% Z0)+1% Z ')% 88qF%
F% ^0+\%VAF% e 0\%>AP%>>Q;>WQC%

U'==051("F% :C% '*1%D+(\\$'F%_C%H>@@WJF%oR, '*=#/)(+'-#0*\$"#&\$%'=0*3%O99%\$-0/4%=')4(-\$%
'*1% e d B _ i %O#+.5-5)(\$qF% F%>>H>JF%>P@;>XVC%

U004()F% B C% DC% H>@>@JF% oD)(% 0#+% '\$"0/4\$ #*.'-#0*'), p% D\$, ==(-)#/' '*1% *0*+##*(')%
\$&(/#.#/'-#0*\$%<(\$5\$/' '*3(\$#%#%)(3#=(qF% F% ^0+C% IWF%
e 0C%>F%PW@;PXAC%

U5'*3F% 7C% RCF% B '\$5+##F% 7C% ZC% '*1% :-0++F% UC% 7C% HAVVXJF% o_*()3, % '\$"0/4\$ ' *1% .#* '*/#'+%
=')4(-\$qF% F%
AXHAJF%A;>cC%

8*/" '5\$&(F% ?CF% 7#&&+(F% 7C% RC% '*1%!)5(/4F% :C%H>@APJF%o!"(% 1, '*=#/\$%0.)(-5)*\$%0*%)(*(K'E+(%
(*)3, %/0=&'*#(\$\D%\$-'-(;\$&'/(%'&&)0'/"qF%_*()3, %_/0*0=#/\$F%<0+C%WQF%#\$\$5(<9F%I>P;IIPC%
F% "--&\$jjKKK#('CO)3j1'-'; '*1;\$-#-\$/%C% H'//(\$\$(1% I% ?5*(%
>@>@JC%

a((F%9;9C '*1%b(*3F%?;UC%H>@AAJF%o!"(%#=#&' /-%0.%0#++&)/(%\$"0/4\$%0*%\$-0/4%=')4(-% ' /-#<#-#(\$%
D\$, = = (-)#/#/(..(/-%K#-"% `5' *#-+(%) (3)(\$\$#0*qF% F%
QA\%AVA@;AV>@C%
a#*-*()F%?C%HAVXPJC%: (/5)#-, %&)/(\$F%)#4F% '*1% = '2# = '+%3 '#*\$\$.)0=%1#<()\$#. #/ '-#0*C% !" (%Y05)* ' +%
0.%.#* '* / (F%>@HWJF%PQc;XAPC%
B / :K((*(, F%_C%?C% '*1% Z0)-"*#3-0*F%DC%9C%H>@@QJF%oD%/0=&')'-#<(% '*'+, \$%\$%0.%0#+' '\$% '%)#\$4%
. ' /-0)%#*%D5\$-)' +# '*%#*15\$-), %\$-0/4%)(-5)*F%AVQ@;>@XqF% C%
^0+C%>PF%8\$C%>F%&&C%AIA;AWPC%
B#++()F%?C%8C% '*1% 7' --#F%7C%DC%H>@@VJF%o9)51(%0#+' '*1%\$-0/4%=')4(-\$% :-'E#+#-, F%#*-\$-'E#+#-, F% '*1%
E5EE+(\$qF% F%IAHWJF%PPV;PXQC%
B0, ';B')-#*(NF%GCF%T())();a'&(t'F%7C% '*1%_\$/)#E' *0; :0-0\$F%TC%H>@AWJF%oL#++&)/(<)#\$4%#*%- "(
: &' *\$"\$-0/4%=')4(-\%D*%#*15\$-), %&()\$&(/-#<(qF% F%Ic\>Q@;>V@C%
e '*1" 'F% B C% '*1% T' ..F%7C%H>@@QJC%oR0(\$%0#++ =0<(\(`5#-, %&)/(\$p%D%3+0E'+%<#(KqF%

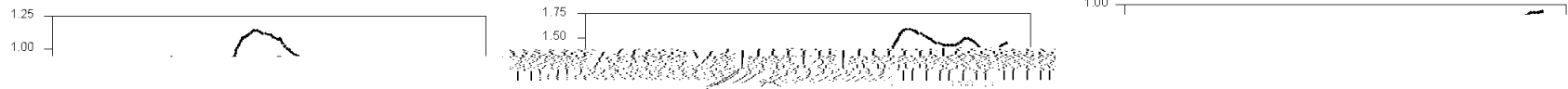
! "#\$%&'()*+,-./0123456789

!	!	!"#\$%&'(")*'+,-.(/,0(1,2(0\$/ (03&-	R ²
4,5	!"#\$%&'(!	"#" "\$!	% "#"&'!	"#() (**!	"#))\$!
	+,#-./!	"#+, '***!	"#" ",!	+#" ("***!	"#("\$!
	0%, ', &#!	% "#") (**!	% "#+-) (**!	"#" ". (**!	"#" ". (!
	1,23)4- /!	\$			

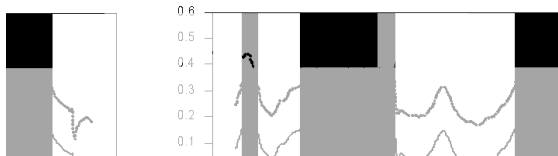
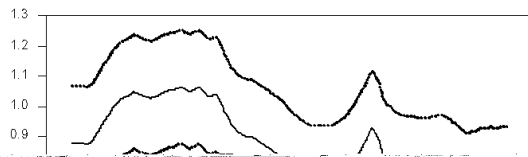
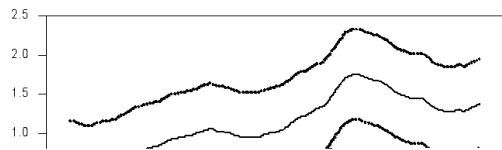
!"#\$%&'()*+,-./:;<=>?@A

!"#\$%&'()*+,-./:;<=>?@A

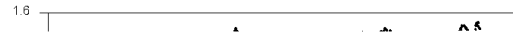
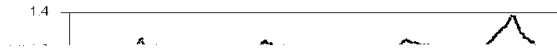
>0?59%)@(!01%A'9B03?)C"9"1%/9.D)EF%10;"\$.))



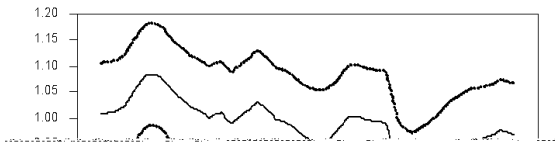
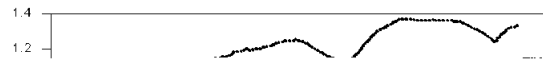
>0?59%)@(!01%A"9B03?)C"9"1%/9.D)EF%10;"\$.):E23/035%<=)



>(0?59%)'(!01%A'9B03?)C''9"1%/%9.D) - 3%9?B))

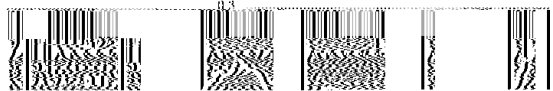
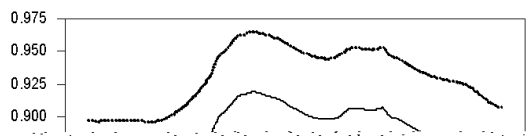
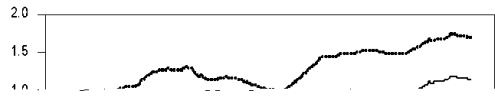


>0?59%)'(!01%A"9B03?)C"9"1%/%9.D) - 3%9?B):E23/035%<=)



c. Exchange rate

>0?59%)6(!01%)A"9B03?)C"9"1%/%9.D)>03"3;0"\$))



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!"#\$%&G()J%. ;90C/0A%), /"/0./0; .)K29)/F%) !01 %&L"9B03?)8"9" 1 %/%9.)

!"#\$%&G()J%.;90C/0A%),/'/0./0;.K29)/F%)!01%&L"9B03?)8"9"1%/%9.):E23/035%<=

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!!	$\beta_{im,t}$	"#-+(!	"#')!	"#)-!	+#"&,!	$\beta_{im,t}$	"#' (!	"#"&.!	"#(\$.!	"#\$\$\$!

