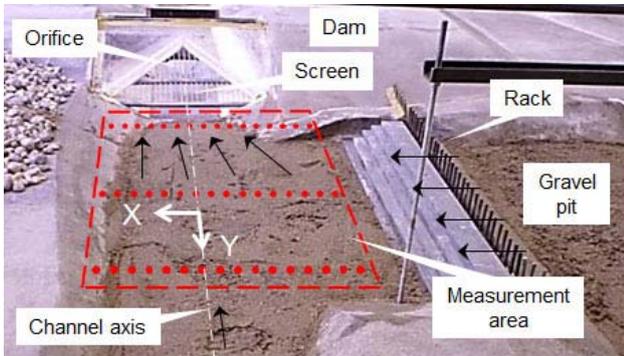
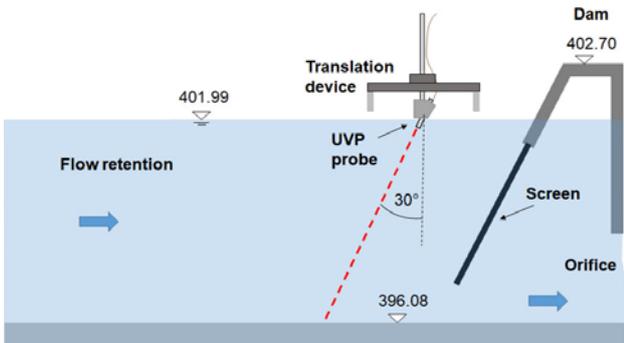


hny "o cr r kpi "y cu'qdvkpgf "d{ "o qxkpi "yj g'r tqdg'wgr /d{/ uvr "qxtg "yj g'o gcuwtgo gpv'ctgc. "kp"38"r qkpu'cpf "5"tqy u0 Tqy u'y gtg'r qukkqpgf "cv'tgur gevkn " { " ? "37"o = { " ? "52"o = { " ? "67"o = wr utgco "Itqo "yj g'qtktleg0



Hki wtg" 5< "Wr utgco " xlyg " qh" yj g" fco " uj qy kpi " yj g" WXR" o gcuwtgo gpv'uej go g'eqo r qugf "qh"38"r qkpu'ugv'kp"5"tqy u0

Vj g'r tqdg"y cu'kpvcmgf "y kj "cp" cpi rg"qh"52"tqo "yj g" xgt'kcn" *Hki wtg"6<0"Vy q' o gcuwtgo gpv'ugt'ku"y gtg"ectt'kfg " qw<"c0"yj g"j qtk' qpvcn' r tq'gevkqp" qh" yj g" wnt'cuqple" dgc0 " r qkpvf " wr utgco " cpf " r ctmgn' "vq" yj g" ej cppgn' czku" cpf " yj gp" d0"vy ctf u" yj g" i t'cxgn' r k' cpf " r gtr gpf k'ewrt "vq" yj g" ej cppgn' czku0 " C" eqo r r'ngv" xgn'ekv " o cr r kpi " eqwf " dg" cej k'xgf "wr utgco "Itqo "yj g'qtktleg. "kp" yj q" r gtr gpf k'ewrt " qt'k'pvc'kpu0



Hki wtg"6<"WXR"r tqdg"lo r rgo gpv'f "wr utgco "Itqo "yj g" f'k'uej cti g" rko k'kpi "qt'ktleg"qh" yj g' f'co 0

"FYgi `hg`

'%: `ck j YcV]mia Udd]b[`

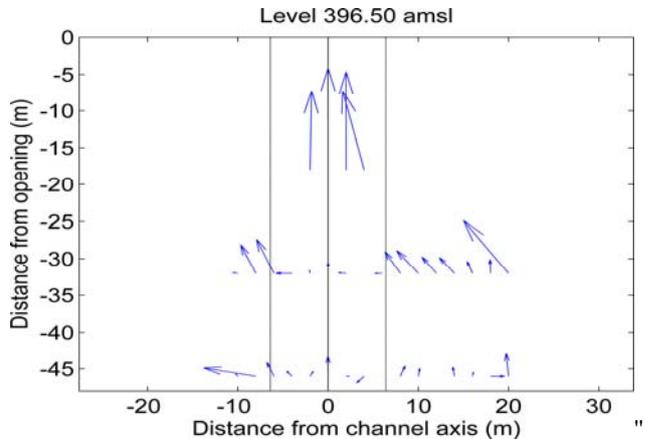
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Wpf gt" r gto cpgpv' hny " eqpf k'k'kpu" *S 322{ " ? "322"o lu" r tq'v' r g+ " yj g" hny " r cwgtpu" y gtg" cpcn' ugf " kp" 35" f'kt'gt'gpv' r'ngnu" cdq'xg" yj g" ej cppgn' dgf. " dgvy ggp" 5; 802" CO UN" cpf " 52402" CO UN0 Vj wu" yj g" xgn'ekv " xgev'tu" y gtg" r n'wgf " kp" j qtk' qpvcn' r r'p'u" gxgt{ " 202"o gvg0

Qxgt "yj g" ej cppgn' dgf " *Hki wtg"7+ "hny "ku"kpj k'k'k'gf "d{ " yj g" gpeg'w'p'gtgf " dqwpf ct{ " gh'gev' { k'grf kpi " c" y gcn' xgn'ekv " h'grf 0" kp" yj g" x'k'k'p'k' { "qh" yj g' dqv'qo "qr g'kpi " hny "ku" ut'qpi " f w'v'q' eq'p'v'p'w'k' { "t'gej kpi "30"o lu0 hny " r cwgtpu" ku'erg'ctn' "

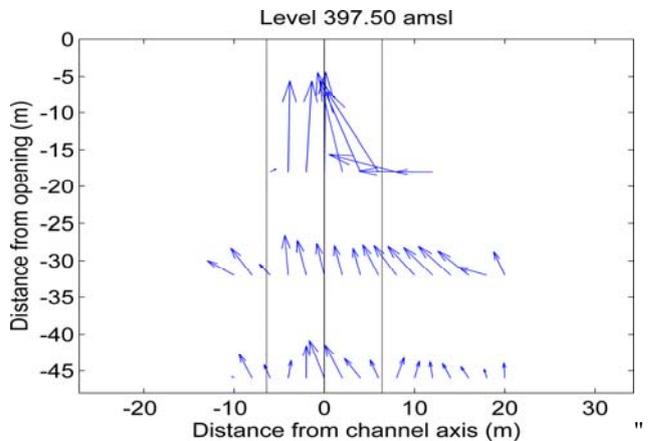
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Kp" yj g" wr utgco " r ctv' qh" yj g" cpcn' ugf " ej cppgn' xgn'ekv " k'pet'gcu' y kj " o gcuwtgo gpv' r'ngnu0 Vj ku" v'cp'k'k'p' " ecp" dg" hny gf "qxtg " Hki wtgu" 7/8/90



Hki wtg"7<" hny " xgn'ekv " r cwgtpu" yj qy p' pgct " yj g" ej cppgn' dgf. " cv' r'ngnu" 5; 802" CO UN0 dgf " dqwpf ct{ " gh'gev' t'gf w'gu" yj g" xgn'ekv " kp" yj g" wr utgco " cpcn' ugf " ej cppgn' r qt'k'p'0 P gct " yj g" qr g'kpi " hny " v'cngu' cp' czken' cv " v'qy ctf u' yj g' qt'ktleg0

Kp" Hki wtg"8. " yj g" xgn'ekv " h'grf " cv' r'ngnu" 5; 902" CO UN" ku" uj qy p0 Vj g" cu{ o o g'v'k'cn' hny " r cwgtpu" v'cngu" r tqi t'gu'k'gn' " r r'eg" y kj " yj g" t'ku" qh" o gcuwtgo gpv' r'ngnu0 hny " r cwgtpu" cv' yj g" qt'ktleg " ku" o c'k'pn' " czken' { gv' y kj " c" i tqy kpi " r'v'g'cn' eqo r q'p'gpv' f w'v'q' hny " ctt'k'k'kpi " Itqo " yj g" i t'cxgn' k0



Hki wtg" 8< " hny " xgn'ekv " uj qy p" cv' r'ngnu" 5; 902" CO UN" t'gx'gn'kpi " yj g' k'pet'gcu' hny " kp" yj g' wr utgco " r ctv' qh" yj g' g'zco k'p'gf " ej cppgn' E' r'ngv' " v'q" yj g' qr g'kpi " hny " v'cngu' c' r'v'g'cn' eqo r q'p'gpv'0

Kp" Hki wtg"9. " yj g" xgn'ekv " h'grf " cv' r'ngnu" 5; ; 02" CO UN" ku" uj qy p0 Vj g' g'zr gev'f " cu{ o o g'v'k'cn' hny " r cwgtpu" ku'erg'ctn' " f g'x'gn' r gf " cpf " yj wu' r q'k'p'v'f " qw0 hny " t'go c'kpu' t'g'v'k'gn' " ut'qpi " eq'ug' v'q" yj g' qt'ktleg. " y kj " c" o c'k'pn' czken' eqo r q'p'gpv'0 "

" " "Gl YUf gff Ygg Udd JYX'cb h Y`YZiW UbbY`VUb_ "

Cu" f go qpuctvfg " cdqrg" *Hki wtg" 7" vq" Hki wtg" ; + " hqy " gZR cPfu" lPvq" cdwo gpv' qh" vj g" rghv' tKxgt" dcpm' qXgt" vj g" y j qrg" y cvgt" eqnw p. " kpf velpi "uj gct" utguu' O'K'ku" vj gtghgt" cr r tqr tKvq" vq" f vgtg lPg" uj gct" utguu" cu" c" hwpvKp" qh" xgrqekv. " cu" hqmy gf "

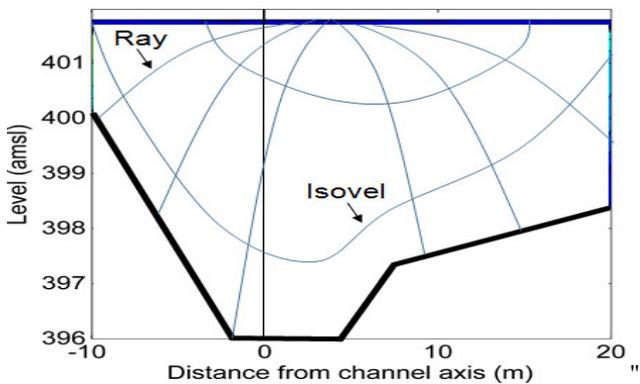
"

"

$$\tau = \rho \left(\frac{U \cdot \kappa}{\ln \left(\frac{l_m}{l_0} \right)} \right)^2 \quad *34'$$

"

Ceeqtf lpi "vq" j5_ "lp" Gs 03. "p" ku" vj g" ur gekhe" o cuu" qh" y cvgt. " W" ku" vj g" xgrqekv "pgct" vj g" y cm" k" ku" vj g" xqp" Mcto cpau" eqpucpv' y j lej "gs weni" 2062: . "h" ku" c" f kucpeg" o gcuwtg" cu" : " " qh" vj g" vq" v' ewxk' k' p' gct" c { " hqo " tKxgt" dcpm' v' cngp" lPvq" ceeqwpv' hqt" uj gct" utguu" *Hki wtg" 34+ " cPfu" n" ku" vj g" tqwi j pguu' j gki j v0"



Hki wtg" 34- " Qtvj qi qpcn' Tc { / Kqxgn' pgy qtn' v' cngp" lPvq" ceeqwpv' hqt" uj gct" utguu' cPfu' uku" lPvq" vj g" ur utgco " xlekpkv " qh" vj g" qtKheg0"

V { r kcn' uj gct " utguu" xcnvgu" tgej " t" O'422" P lo " pgct" vj g" rghv' ej cPpgr' dcpm' ur utgco " hqo " vj g" qtKheg0" vj ku" xcnvq" j cu" vq" dg" uecrf " ur " d { " c" 367" o wnk' n' c' vq" h' evqt" f vq" vq" vj g" xgrqekv " eqo r qpgpv' p' qto cni" vq" vj g" rghv' tKxgt" dcpm' { kgrf lpi " xcnvgu" n' ti g" t" x" 492" P lo " O' Vj gug" eqpuctkpv' tgs vktg" c' tkr / tcr " dcpm' r tqv' evq" p" j6_0"

' ("7cbgffi WvX'gffi Wv fYg'cb h Y5 JfYFj Yf"

Cu" f go qpuctvfg " qp" Hki wtg" 35. " vj g" cPcni' ugu" ecttKgf " qw" cv' vj g" Ncdqtcvt { " hqt" Cr r n' g" J { f t' cwleu" qh" J GRIC" { kgrf gf " vj g" eqpuctv' evq" qh" c" j" gZci qpcn' f k' e' j cti g" n' o k' kpi " qtKheg" qp" vj g" Cktg" T' kxgt" cu" f g' h' k' p' g" qp" vj g" r j { ulecn' j { f t' cwle " o qf gr' O' ur utgco " hqo " vj g" qtKheg" c" tkr / tcr " ej cPpgr' dcpm' n' k' lpi " y cu" cf q' r v' g' f 0"



Hki wtg" 35- " Utvewtgu" eqpuctv' evq" qp" vj g" Cktg" T' kxgt" cu" f g' h' k' p' g" qp" vj g" r j { ulecn' j { f t' cwle " o qf gr' O' C" j" gZci qpcn' qtKheg" cPfu' c' tkr / tcr " ej cPpgr' dcpm' n' k' lpi " y g' g' cf q' r v' g' f " ur utgco " hqo " vj g" ur v' g' f 0"

*** "Gi a Ufm**

Vj g" cej k' x' g' o gpv' qh" vj g" r t' g' u' p' v' u' w' f { " w' p' f g' r' k' p' g' v' j cv' vj g" cr r tqr tKvq" ej qleg" qh' utvewt' cni" o gcuwtgu" lP" tKxgt" t' g' u' q' t' v' k' p' o c { " dg" cuukv' g' f " d { " r j { ulecn' o qf gr' v' guu" lP" r ct' v' ewr' t" y j gp" w' p' eqo o qp" hqy " r c' w' g' t' p' eqp' f k' k' q' u' p' ctg" g' p' eq' w' p' v' g' t' g' f 0"

Kp' vj g" Cktg" T' kxgt" t' g' x' k' c' r' k' u' c' v' k' p' r t' q' i t' c' o o g' lP" I g' p' g' x' c' v' j g" xgrqekv " h' k' r' f " o cr r lpi " qh' c' p' cu" o o g' v' t' c' n' hqy " r c' w' g' t' p' t' g' x' g' c' r' f " r g' t' v' k' p' p' v' q' p' r j { ulecn' j { f t' cwle " o qf gr' O"

Vj g" gZr g' t' k' o gpv' n' u' w' f { " ecttKgf " qw" d { " o g' c' p' u' qh' c" O g' v' hqy " WXR" r t' q' d' g" cv' vj g" Ncdqtcvt { " hqt" Cr r n' g' f " J { f t' cwleu" qh" J GRIC" o' I g' p' g' x' c. " r q' l' p' v' g' f " qw" v' j cv' f g' ur k' g" vj g" g' p' eq' w' p' v' g' t' g' f " cu" o o g' v' t' c' n' hqy " r c' w' g' t' p' v' j g' j { f t' cwle " n' y " qh" vj g" qtKheg" q' r g' p' k' pi " ku" y g' c' m' { " c' h' g' e' v' g' f 0 [g' v' lP" q' t' f' g' t" vq" t' g' u' r' g' ev' vj g" lP' w' p' f' v' k' v' p' t' k' u' n' i' o k' k' i' c' v' k' p' i' q' c' n' i' qh' vj g" Cktg" T' kxgt" t' g' x' k' c' r' k' u' c' v' k' p' r t' q' l' g' ev' vj g' f' k' o g' p' u' k' p' u' qh' vj g" r t' q' r' q' u' g' f " j g' z' c' f' g' e' k' o' c' n' i' q' r' g' p' k' pi " j c' f " vq" dg" v' g' u' g' f " qp" r j { ulecn' o qf gr' c' p' f " c' f' l' w' u' g' f 0"

Vj g" u' w' f { " t' g' u' w' u" c' n' u' q" r q' l' p' v' g' f " qw" vj cv' lP" vj g" ur utgco " xlekpkv " qh" vj g" f k' e' j c' ti g" n' o k' k' pi " qtKheg" p' q' v' c' d' r' g" uj gct" utguu" ku" cr r n' g' f " qp" vj g" rghv' tKxgt" dcpm' f v' g" vj g" g' p' eq' w' p' v' g' t' g' f " cu" o o g' v' t' c' n' i' t' c' p' u' x' g' t' u' g' hqy 0' Vj gug" t' g' u' w' u" { kgrf gf " vj g' t' g' x' c' n' v' k' p' qh' vj g' d' c' p' n' i' r t' q' v' e' v' k' p' v' g' e' j p' l' s' w' g" l' p' k' l' c' m' " r n' e' p' p' g' f " d { " r n' e' p' v' g' p' i' l' p' g' g' t' l' p' i' O' Vj g' t' g' h' g' t' g' c" t' k' r / tcr " utvewt' g' y cu" g' t' g' e' v' g' f " q' x' g' t' vj g' g' p' v' k' g' j' g' k' i' j' v' qh' vj g' rghv' dcpm' cu" ej cPpgr' n' k' l' p' i 0"

F YZf YbWg'

J3_ " Xgeugt p { 2 u \ O' g' v' c' n' O' K' p' p' q' x' c' v' k' g' f' t' k' h' y' q' q' f' t' g' v' p' v' k' p' f' g' x' l' e' g' qp" vj g" Cktg" T' kxgt" lP" I g' p' g' x' c. " K' p' v' t' r' t' c' g' x' p' v' E' q' p' i' t' g' u' u. " N' w' l' g' t' p. " U' y' k' l' g' t' r' c' p' f " *4238+ "

J4_ " Xgeugt p { 2 u \ O' g' v' c' n' O' R' j { ulecn' o qf gr' k' p' i " qh' vj g' vj k' f " u' c' i' g' qh' Cktg" T' kxgt" t' g' x' k' c' r' k' u' c' v' k' p' r t' q' l' g' ev' O' U' y' k' u' " E' q' o' r' g' v' g' p' e' g' u' lP" T' kxgt" G' p' i' l' p' g' g' t' l' p' i " c' p' f " T' g' u' q' t' v' k' p. " U { o r' q' u' k' w' o " E' K' R' E" M' Q' J' U. " U' y' k' l' g' t' r' c' p' f " *4236+ "

J5_ " M' g' c' p' " L' O' Y' O' g' v' c' n' O' V' g' u' v' qh' c" O' g' v' q' f " vq" E' c' r' e' w' e' v' g' P' g' c' t' / D' c' p' n' i' X' g' r' q' e' k' v " c' p' f " D' q' w' p' f' c' t { " U' j' g' c' t' " U' t' g' u' u. " I' q' w' p' c' n' i' qh' J { f t' cwle " G' p' i' l' p' g' g' t' l' p' i . " C' U' E' G. " r' r' 07: : / 823" *422; + "

J6_ " E' j' g' p' [O' O' c' p' f " E' q' w' q' p' " I' O' M' F' g' u' k' i' p' " qh' T' q' c' f' u' k' g' " E' j' c' p' p' g' n' i' y' k' j " H' r' g' z' k' d' r' g' " N' l' p' k' i' u. " J { f t' cwle " G' p' i' l' p' g' g' t' l' p' i " E' k' e' w' r' t' " P' q' O' 37" T' g' r' q' t' v' " P' q' O' H' I' Y' C' / R' R: 8/70' Y' c' u' j' l' p' i' v' q' p. " F' (E' O' " H' e' f' g' t' c' i' J' k' i' j' y' c { " C' f' o' l' p' k' u' c' v' k' p. " W' U' C" *3; : 8+ "