ITY 90

Suspended Sediment Sample Processing Certification

This checklist covers the proper procedure to process suspended sediment samples

Person certified PAULA Rhude Date 1-31-99 By CLARK TENTON
$\stackrel{\checkmark}{\rightharpoonup}$ Filled out headings properly on appropriate suspended sediment concentration data sheet
<u>Examined sample identification and matched with sign in sheet – recorded any identification</u> discrepancies and recorded info on data sheet
\checkmark Weighed and recorded Total bottle weight with cap on to the nearest 0.1 of a gram on data sheet
<u>Checked volume mark on bottle and responded appropriately</u>
$\underline{\vee}$ Wrote down QC filter # and sample filter #'s on data sheet
 Handled filters with forceps and placed filter fuzzy side down on glass support and turn on vacuum Wet filter with distilled water and checked for holes
 Clamped on glass funnel Poured sample without shaking first into funnel Washed sample cap into funnel Washed interior and outer neck of sample container into funnel
Washed any sediment from sides of funnel down onto filter Unclamped funnel with vacuum on and rinsed any sediment on bottom of funnel onto filter Turned off vacuum and transferred filter to drying rack to dry
V Weighed empty bottle and cap and recorded Tare Bottle weight to nearest 0.1 gram
Allowed filters to air dry on rack at least one hour before putting on tray
$\underline{\checkmark}$ Put filters into 105 ° C oven to dry for at least 0.5 hour for tare filters and 1.5 hours for samples
Followed SSC Protocol and recorded appropriate Quality Codes
<u> </u>
Used common sense and safe procedures
Comments
Univi Savu

Suspended Sediment Sample Processing Certification

This checklist covers the proper procedure for processing suspended sediment samples.

Person certified CLARK TENTON Date April 11, 1999 By A. Auchzola

f Filled out headings properly on appropriate suspended sediment concentration data sheet

<u>/</u> Examined sample identification and matched with sign in sheet – recorded any identification discrepancies and transferred sample info to data sheet

<u>U</u> Weighed and recorded Total bottle weight to the nearest 0.1 of a gram on data sheet

 $\cancel{1}$ Wrote down starting filter # on data sheet and QC filters & subsequent filters for that sample

✓ Handled filters with forceps and placed filter fuzzy side down on glass support and turn on vacuum

 $\sqrt{}$ Wet filter with distilled water and checked for holes

 \checkmark Clamped on glass funnel

Poured sample without shaking first into funnel

Washed sample cap into funnel

 $\cancel{1}$ Washed interior and outer neck of sample container into funnel

 \checkmark Washed any sediment from sides of funnel down onto filter

/ Unclamped funnel with vacuum on and rinsed any sediment on bottom of funnel onto filter

 \checkmark Turned off vacuum and transferred filter to drying rack.

_____ Allowed at least an hour for all filters to air dry on rack before putting on tray

____ Put tray into 105° C oven to dry for at least 0.5 hour for tare filters and 1.5 hours for samples

____ Weighed empty bottle and cap and recorded Tare Bottle weight on data sheet

____ Recorded appropriate Quality Codes

_____ Used common sense and safe procedures

____ Put red mark on sign in sheet next to completed sample

Comments _____ ssclabcert/cf/wd6/1-99

Aute Andarda

HV 9A

Salmon Forever () (hundeler > multiplate() (hundeleve) (hundeleve)

ALL REPORTS

Filter Weighing Procedure

Certification

This checklist outlines the proper procedures for determining the weight of filters Using a Mettler H20t balance

Person certified CLARK FENTEN Date April 14,1999 By A Audazola Unta Undargela

✓ After air-drying filters 1 hour on wire rack, placed filters in a clean pan in rows of 4 and 5 filters and heated at 105° C for 1 and 1/2 hours for samples and 1/2 hour for filter tares.

- Removed pan from oven and immediately placed in desiccator to cool for at least 1 hour before weighing for sample filters and wait 1/2 hour for filter tares.
- Zeroed balance by first full releasing scale gently and letting balance settle for at least 10 seconds. Used zero knob to set zero and then returned scale gently to full arrest
- \checkmark Zeroed balance between each weigh

al start the second M

- Weighed a check weight before weighing filters and every 10th weigh and recorded in Check Weight book. Checked the pan for debris, and if present, gently removed it
- ✓ Set balance gently to full release, opened dessicator, removed sample tray and transferred a row of 4 or 5 filters to another tray. Immediately put tray with remainder of filters back into dessicator and closed door. Zeroed balance and brought balance back to full arrest.
- ✓ Open the sliding door and carefully placed the filter on the center of the weighing pan and then closed the door. Determined weight to tenth of a gram with half release. Set to full release and let balance stabilize for at least 10 seconds. Determined the remainder of the weight with knob and then recorded the weight on the data sheet.
- \checkmark Opened the door and removed the filter.
- \checkmark Closed the door.
- _____ Checked the final weight against the initial weight. The final weight should be larger. If the initial weight is larger than the final weight try to determine where the error occurred.

Comments Auta Audarela cert.filterweighs1/99/wd98/1-99

Weighing Certification continued ... recently nomice

dal manufad work yana

Filter Weigh Checks

Weigh precision shall be checked with comparison of 10 filter weighs. Weights shall be within 5% of each other.

and the Charles of the state of 计上标时间代码 CK. UT. 1.00008 1. 0.(0688 g 1a. <u>6, 10684</u> g 1251 2. <u>0.10657</u> g 2a. <u>0.106:47</u> g 1252 3. <u>0.11072</u> guarda a state al analytication and the second state of the second state 053 1254 4. O(10909g) from the second state of $4_{a.}$ O(109076g) before a cross bracket (255 5.0.1063) g and reference to $5a^{1}$ or 70079 as to every set of the state of the sta 1256 6. 0.11020 g and the gradient of $a_{1,0} = 0.1008$ g and the gradient of $a_{1,0} = 0.10837$ g and the gradient of $a_{1,0} = 0.10837$ g and the second of the second of $a_{1,0} = 0.10837$ g and the second of the second 8a. <u>0. 106 85 g</u> 1258 8. 0. 10696 g 1259 9. <u>0.10719</u> g 1260, 10.0.10979 g 10.0.10972 g 10a 0.10972 g مردف والم s about the manufacture area to the product product of the CK. WT. 1.00007 had see week dadgad can be used a sector of the sector of

e al den a supplier a clima a consegue no mali più escule plititi i a bine contra il transferi i programma. An comments a comments

> na sa na Tana na sa na s

rije – objektivna objektivna stora se state e state bode stori ≹one objektivna objektivna segmenta se na stori Provinski se stori objektivna objektivna se se stori objektivna stori stori stori stori stori stori stori se se

and a second second

Salmon Forever Sunny Brae Sediment Lab^{ar da} and an and the sediment Lab^{ar da}

Sample Filter Drying and Weighing Certification

This checklist covers the proper procedure for Drying and Weighing Suspended Sediment Samples (Mettler H20t Balance)

Person certified SARAH HEBERLIN Date 3-15-99 BY CLARK FENTON After air-drying filters 1 hour on wire rack, placed filters in a clean pan in rows of 4 and 5 filters and heated at 105° C for 1 and 1/2 hours for sample filters and 1/2 hour for filter tares. Removed pan from oven and immediately placed in desiccator to cool for at least 1 hour for sample filters and 1/2 hour for filter tares before weighing. Zeroed balance by first full releasing scale gently and let balance settle for at least 10 seconds. Used zero knob to set zero and then return scale gently to full arrest Zeroed balance between each weigh Weighed a check weight before weighing filters and used every 10th weigh and recorded on data sheet and in Check Weight book. Checked the pan for debris, and if present, gently removed it Set balance gently to full release, opened dessicator, removed sample tray and transferred a row of4 or 5 filters to another tray. Immediately put tray with remainder of filters back into dessicator and closed door. Zeroed balance and brought balance back to full arrest. Opened the sliding door and carefully placed the filter on the center of the weighing pan and then closed the door. Determined weight to tenth of a gram with half release. Set to full release and let balance stabilize for at least 10 seconds. Determined the remainder of the weight with knob and then recorded the weight on the data sheet. Margarette 1 Opened the door and removed the filter. Closed the door. Checked the final weight against the initial weight. The final weight should be larger. If the initial weight is larger than the final weight tried to determine where the error occurred and

(MIN,

recorded error code on data sheet.

OUT

THTERS

Comments:

Cert.weighing/wd98/2-99

新教师 新教师的

Weigh precision shall be checked with comparison of 10 filter weighs. Weights shall be within 5% of each other. Sarah HEBERLIN CLAUK FENTON CK- UT. 1,00006 9 000 1. 0.10681 g 1a. 0.10686 g 0.05% DIFFERENCE 003 2. 0.10769 g 3a. 0.10681 g 0.004% 004 3. 0.10679 g 3a. 0.10681 g 0.004% 005 4. 0.10785 g 4a. 0.10681 g 0.004% 006 5. 0.10656 g 5a. 0.10654 g 0.004% 007 6. 0.10705 g 6a. 0.106694 g 0.065% 008 7. 0.10684 g 7a. 0.10687 g 0.06% 009 8. 0.106884 g 7a. 0.10687 g 0.06% 010 9. 0.10791 g 9a. 0.10795 g 0.04% 010 9. 0.10791 g 9a. 0.10795 g 0.04%		Filter Weigh Checks and an and an and an and and an and and	%
Sarah HEBERUN (and FENTON CK. WT. 1.000069 1.0.10681 g 1a.0.10686 g 0.05% NIFFERENCE 003 2.0.10769 g 2a.0.10773 g 0.04% 004 3.0.10679 g 3a.0.10681 g 0.06% 005 4.040785 g 4a.0.10681 g 0.06% 006 5.0.10656 g 5a.0.10654 g 0.06% 007 6.0.10705 g 6a.0.10687 g 0.06% 008 7.0.10684 g 7a.0.10687 g 0.03% 009 8.010682 g 9a.0.10795 g 0.04% 010 9.0.10791 g 9a.0.10795 g 0.04% 010 9.0.10791 g 0.03% 010 9.0.10791 g 9a.0.10795 g 0.04% 010 9.0.10791 g 100.010731 g 0.341% 011 10.0.10694 g 100.010731 g 0.341% 012 10.00099 Comments		Weigh precision shall be checked with comparison of 10 filter weighs. Weights shall be within 59 each other.	6 of
$\begin{array}{c} 0.02 & 1. \underbrace{0.10681}_{(-1.0769)} g \\ 0.03 & 2. \underbrace{0.10769}_{(-1.0769)} g \\ 0.04 & 3. \underbrace{0.10679}_{g} g \\ 0.05 & 4. \underbrace{0.10773}_{(-1.0785)} g \\ 0.05 & 4. \underbrace{0.10785}_{g} g \\ 0.06 & 5. \underbrace{0.10656}_{g} g \\ 0.06 & 5. \underbrace{0.10684}_{g} g \\ 0.06 & 7. \underbrace{0.10584}_{g} g \\ 0.06 & 7. \underbrace{0.10795}_{g} g \\ 0.06 & 7. \underbrace{0.10584}_{g} g \\ 0.06 & 7. \underbrace{0.0679}_{g} g \\ 0.06 & 7. \underbrace{0.0694}_{g} g \\ 0.06 & 7. \underbrace{0.0694}_{g} g \\ 0.00731 & g \\ 0.00731 & g \\ 0.00731 & g \\ 0.00799 \\ Comments \end{array}$	- ILTER 1	Barah HEBERLIN MILLEN CLANK FENTON CK. W.	
$\begin{array}{c} 0 \circ 3 & 2 \cdot 0 \cdot 10769 \\ 0 \circ 4 & 3 \cdot 0 \cdot 10679 \\ g & 3 \cdot 0 \cdot 106785 \\ g & 3 \cdot 0 \cdot 10681 \\ g & 0 \cdot 0 \cdot 0783 \\ g & 4 \cdot 0 \cdot 10783 \\ g & 0 \cdot 0 \cdot 0783 \\ g & 0 \cdot 0 \cdot 08 \\ g & 0$	002	1. <u>0.10681</u> g la. <u>0.10686</u> g 0.05% DIFFEREN	9 CE
$\begin{array}{c} 004 3. \ \underline{0.10679}_{g} \\ 005 4. \ \underline{0.10785}_{g} \\ 006 5. \ \underline{0.10656}_{g} \\ 006 5. \ \underline{0.10656}_{g} \\ 007 6. \ \underline{0.10705}_{g} \\ 007 6. \ \underline{0.10705}_{g} \\ 008 7. \ \underline{0.10684}_{g} \\ 009 8. \ \underline{0.10684}_{g} \\ 010 9. \ \underline{0.10791}_{g} \\ 010 9. \ \underline{0.10791}_{g} \\ 010 9. \ \underline{0.10791}_{g} \\ 010 \underline{0.10795}_{g} \\ 010 0.10094 \\ 0.10795 \\ 0.1075 \\ 0.10795 \\ 0.$	003	2.0.10769 g 2a.0.10773 g 0.04%	
$005 4. \frac{0.10785}{0.10656} g 44. \frac{0.10783}{0.10654} g 0.08\%$ $6. \frac{0.10705}{0.10684} g 7a. \frac{0.10687}{0.10687} g 0.06\%$ $8. \frac{0.10684}{0.10688} g 7a. \frac{0.10687}{0.10687} g 0.03\%$ $8a. \frac{0.10687}{0.10688} g 0.06\%$ $9a. \frac{0.10795}{0.10795} g 0.04\%$ $CK. \omega T.$ $Comments$	004	3. 0.10679 g 3a. 0.10681 g 0.02%	
$\begin{array}{c} 006 & 5 & 0.10656 \\ s & 0.10705 \\ co7 & 6 & 0.10705 \\ co8 & 7 & 0.10684 \\ g & 7a & 0.10687 \\ g & 7a & 0.10687 \\ g & 7a & 0.10687 \\ g & 0.0376 \\ co8 & 0.10688 \\ g & 7a & 0.10687 \\ g & 0.0376 \\ co8 & 0.10795 \\ g & 0.06795 \\ g & 0.06795 \\ co8 & 0.10795 \\ g & 0.0694 \\ co8 & 0.10795 \\ g & 0.0694 \\ co8 & 0.10795 \\ co8 & 0.10795 \\ co8 & 0.10694 \\ co8 & 0.10795 \\ c$	005.	4. 0.10785 g 0.00 %	
$\begin{array}{c} 007 6. \ \underline{0.10705} \ g \\ 008 7. \ \underline{0.106844} \ g \\ 009 8. \ \underline{0.10687} \ g \\ 009 8. \ \underline{0.10682} \ g \\ 010 9. \ \underline{0.10791} \ g \\ 010 9. \ \underline{0.10791} \ g \\ 010 9. \ \underline{0.10791} \ g \\ 010 10. \ \underline{0.10694} \ g \\ 010 10. \ \underline{0.10694} \ g \\ 010 10. \ \underline{0.10694} \ g \\ 010 10. \ \underline{0.10791} \ g \\ 010 0.10795 \ g \\ 010 \ $	006	5. 0.10656 g. and a constant of 5a. 0.10654 g. 100.02 % out was	
$\begin{array}{c} 0.8 & 7. \ \underline{0.10684} \ g \\ 0.09 & 8. \ \underline{0.10682} \ g \\ 0.00 & 9. \ \underline{0.10791} \ g \\ 0.10 & 9. \ \underline{0.10791} \ g \\ 0.10 & 9. \ \underline{0.10795} \ g \\ 0.10 & 0.10731 \ g \\ 0.10 $	007	6. 0.10705 g $6a. 0.106999 g 0.06\%$	
$009 = \frac{6.10682}{9} \frac{g}{6} = \frac{6.10791}{g} \frac{g}{6} = \frac{6.10795}{9} \frac{g}{6} = \frac{6.10795}{9} \frac{g}{6} = \frac{6.10795}{34\%} \frac{g}{6} = \frac{6.10795}{2} \frac{g}{6} = \frac{6.10795}{34\%} \frac{g}{6} = \frac{6.10795}{2} \frac{g}$	008	7. 0.10684 g 7a. 0.10687 g 0.03 6	
010 9. 0.10791 g	009	8. 010682 8	
$O(1) 10. \frac{0.10694}{g}$	010	$g_{1} = 0.1079[g_{1} = 0.0795g_{2} = 0.4\%$	
CK. WT. Note the second secon	'01(^{****}	10. 0.10694 g	
Comments	54,	$CK \cdot \omega_{T}$	
		Comments	

and and a second se Second second

A state of the second s

 $(x_i, C_i) \in \mathcal{X}_i$.

144 99

Salmon Forever Sunny Brae Sediment Lab and a second and a second of the second second

Sample Filter Drying and Weighing Certification

This checklist covers the proper procedure for Drying and Weighing Suspended Sediment Samples (Mettler H20t Balance)

Person certified ANITA ANDAZOLA Date 11-14-98 By CLARK FENTON

 \checkmark

After air-drying filters 1 hour on wire rack, placed filters in a clean pan in rows of 4 and 5 filters and heated at 105° C for 1 and 1/2 hours for sample filters and 1/2 hour for filter tares.

Removed pan from oven and immediately placed in desiccator to cool for at least 1 hour for sample filters and 1/2 hour for filter tares before weighing.

Zeroed balance by first full releasing scale gently and let balance settle for at least 10 seconds. Used zero knob to set zero and then return scale gently to full arrest

Zeroed balance between each weigh

Weighed a check weight before weighing filters and used every 10th weigh and recorded on data sheet and in Check Weight book. Checked the pan for debris, and if present, gently removed it

Set balance gently to full release, opened dessicator, removed sample tray and transferred a row of4 or 5 filters to another tray. Immediately put tray with remainder of filters back into dessicator and closed door. Zeroed balance and brought balance back to full arrest.

Opened the sliding door and carefully placed the filter on the center of the weighing pan and then closed the door. Determined weight to tenth of a gram with half release. Set to full release and let balance stabilize for at least 10 seconds. Determined the remainder of the weight with knob and then recorded the weight on the data sheet.

Opened the door and removed the filter. Closed the door.

Checked the final weight against the initial weight. The final weight should be larger. If the initial weight is larger than the final weight tried to determine where the error occurred and recorded error code on data sheet.

Good match on comparison weighs Comments:

Cert.weighing/wd98/2-99

continued =

			• • • • •						······································
ID	weight (g)		weight (g)	ID .	weight (g)		weight (g)	ID	weigh
	- ^						·	·	·
	<u> </u>								
		LEIN WI	1.00004		·				
131	0.1282-1		0.12830						
152	0.12741	13.0	0.12-184						
133	0.12643	(35)	0.10628						
134	0.12478	134	0.12416		· · · · · · · · · · · · · · · · · · ·				
135	0.12680	135	0.12616		· · · · ·				
156	0.12678	136	0.12667				·		L
137	0.10434	137	0.12425						
138	0.18448	138	0.12497						<u> </u>
		CH.K. W	T 1.00011.	\square					
		····							L
QC8	0.12		0.12400						L
			4						
									
							•		
									· ·
									1 .
							- <u></u>		
					· · · · · · · · · · · · · · · · · · ·				, ,
						·			
				-					

ŕ

HY99

Turbidity Sample Processing Certification

This checklist outlines the proper procedures for determining the turbidity of several different types of sample containers with the HACH 2100P Turbidimeter

Person certified CLARK FENTON

By A. Audazola Date April 11, 1999

Turbidity is to be run on all samples as soon as possible and recorded on sign-in sheet and data sheet Turbidities are recorded and samples are placed back in order for ssc processing

If proceeding directly afterwards to SSC processing, weigh the total sample bottle weight before running turbidity

Use this protocol for running sample HACH cells in the HACH 2100P Turbidimeter

 $\frac{1}{2}$ Put 1 drop of silicone on HACH cell and wiped with black cloth, did not wipe off sample label

/ Shook HACH cell for at least 5 seconds and then inserted HACH cell with white diamond point of cell label aligned with bar on case of HACH 2100P Turbidimeter

 \checkmark Waited 3 seconds for air bubbles to rise before pressing read button

Recorded turbidity on sign-in sheet

Use this protocol for samples in bottles other than HACH cells

V Shook sample bottle vigorously until no sediment is stuck to the bottom

 \checkmark Poured shaken sample bottle water into HACH cell as soon as possible

 $\sqrt{}$ Filled HACH cell up to white label line and ran and recorded turbidity per protocol

If HACH 2100P turbidimeter reading is a flashing E7 or 1000+ then dilute the sample to get actual turbidity Use NTU Dilution sheet to record and calculate dilution data

✓ Poured sample water in tared beaker and record as "original volume"

 $\cancel{1}$ Added appropriate dilution volume and recorded as "1st dilution volume total" and ran turbidity

 \checkmark Continued dilutions until turbidity read and calculate actual turbidity

 ν For small dilutions poured sample water from beaker into HACH cell as soon as possible

 $\cancel{1}$ Stirred large dilutions with spoon and dipped HACH cell into beaker

✓ Ran HACH cell in HACH 2100P Turbidimeter per protocol

Either poured HACH cell water back into sample bottle or proceeded to SSC processing with HACH cell and remainder of sample

Comments

Auta Audarpla

Certlabt/wd98/1-99

HY 99

Clark S.A.

Turbidity Sample Processing Certification

This checklist outlines the proper procedures for determining the turbidity of several different types of sample containers with the HACH 2100P Turbidimeter

Person certified <u>ANNE</u> AWTOULLE Date <u>2-8-99</u> By <u>CLARK</u> TENTON Turbidity is to be run on all samples as soon as possible and recorded on sign-in sheet and data sheet Turbidities are recorded and samples are placed back in order for ssc processing

If proceeding directly afterwards to SSC processing, weigh the total sample bottle weight before running __turbidity

Use this protocol for running sample HACH cells in the HACH 2100P Turbidimeter

____Put 1 drop of silicone on HACH cell and wiped with black cloth, did not wipe off sample label

Shook HACH cell for at least 5 seconds and then inserted HACH cell with white diamond point of cell

label aligned with bar on case of HACH 2100P Turbidimeter

 \mathcal{V} Waited 3 seconds for air bubbles to rise before pressing read button

____Recorded turbidity on sign-in sheet

Use this protocol for samples in bottles other than HACH cells

_____Shook sample bottle vigorously until no sediment is stuck to the bottom

____Poured shaken sample bottle water into HACH cell as soon as possible

_____Filled HACH cell up to white label line and ran and recorded turbidity per protocol

If HACH 2100P turbidimeter reading is a flashing E7 or 1000+ then dilute the sample to get actual turbidity Use NTU Dilution sheet to record and calculate dilution data

_____Poured sample water in tared beaker and record as " original volume"

Added appropriate dilution volume and recorded as "1st dilution volume total" and ran turbidity

_____ Continued dilutions until turbidity read and calculate actual turbidity

____For small dilutions poured sample water from beaker into HACH cell as soon as possible

Stirred large dilutions with spoon and dipped HACH cell into beaker

Ran HACH cell in HACH 2100P Turbidimeter per protocol

Either poured HACH cell water back into sample bottle or proceeded to SSC processing with HACH cell and remainder of sample

[Hach Cells on --/ Comments Certlabt/wd98/1-99

HY 99

Salmon Forever Sunny Brae Sediment Lab

Turbidity Sample Processing Certification

This checklist outlines the proper procedures for determining the turbidity of several different types of sample containers with the HACH 2100P Turbidimeter

Person certified Paula Rhode Date 2-14-97 By C. FENTON	
Turbidity is to be run on all samples as soon as possible and recorded on sign-in sheet and data sheet Turbidities are recorded and samples are placed back in order for ssc processing	۰
If proceeding directly afterwards to SSC processing, weigh the total sample bottle weight before runn turbidity	ning
Use this protocol for running sample HACH cells in the HACH 2100P Turbidimeter	-
 Put 1 drop of silicone on HACH cell and wiped with black cloth, did not wipe off sample label Shook HACH cell for at least 5 seconds and then inserted HACH cell with white diamond point label aligned with bar on case of HACH 2100P Turbidimeter Waited 3 seconds for air bubbles to rise before pressing read button Recorded turbidity on sign-in sheet 	t of cel
Use this protocol for samples in bottles other than HACH cells	
Shook sample bottle vigorously until no sediment is stuck to the bottom Poured shaken sample bottle water into HACH cell as soon as possible Filled HACH cell up to white label line and ran and recorded turbidity per protocol	

If HACH 2100P turbidimeter reading is a flashing E7 or 1000+ then dilute the sample to get actual turbidity Use NTU Dilution sheet to record and calculate dilution data

_____Poured sample water in tared beaker and record as "original volume"

_____ Added appropriate dilution volume and recorded as "1st dilution volume total" and ran turbidity

_____ Continued dilutions until turbidity read and calculate actual turbidity

_____For small dilutions poured sample water from beaker into HACH cell as soon as possible

_____Stirred large dilutions with spoon and dipped HACH cell into beaker

_____Ran HACH cell in HACH 2100P Turbidimeter per protocol

Either poured HACH cell water back into sample bottle or proceeded to SSC processing with HACH cell and remainder of sample

Comments

Certlabt/wd98/1-99

HY 9

Turbidity Sample Processing Certification

This checklist outlines the proper procedures for determining the turbidity of several different types of sample containers with the HACH 2100P Turbidimeter

Turbidity is to be run on all samples as soon as possible and recorded on sign-in sheet and data sheet Turbidities are recorded and samples are placed back in order for ssc processing

Person certified JANNA FUNCKE Date 2-21-99 By CLARK TENTON

If proceeding directly afterwards to SSC processing, weigh the total sample bottle weight before running turbidity

Use this protocol for running sample HACH cells in the HACH 2100P Turbidimeter

Put 1 drop of silicone on HACH cell and wiped with black cloth, did not wipe off sample label Shook HACH cell for at least 5 seconds and then inserted HACH cell with white diamond point of cell

label aligned with bar on case of HACH 2100P Turbidimeter

 \checkmark Waited 3 seconds for air bubbles to rise before pressing read button

____ Recorded turbidity on sign-in sheet

Use this protocol for samples in bottles other than HACH cells

 \checkmark Shook sample bottle vigorously until no sediment is stuck to the bottom

____Poured shaken sample bottle water into HACH cell as soon as possible

Filled HACH cell up to white label line and ran and recorded turbidity per protocol

If HACH 2100P turbidimeter reading is a flashing E7 or 1000+ then dilute the sample to get actual turbidity Use NTU Dilution sheet to record and calculate dilution data

_____Poured sample water in tared beaker and record as " original volume"

_____ Added appropriate dilution volume and recorded as "1st dilution volume total" and ran turbidity

_____ Continued dilutions until turbidity read and calculate actual turbidity

____For small dilutions poured sample water from beaker into HACH cell as soon as possible

____Stirred large dilutions with spoon and dipped HACH cell into beaker

Ran HACH cell in HACH 2100P Turbidimeter per protocol

Either poured HACH cell water back into sample bottle or proceeded to SSC processing with HACH cell and remainder of sample

Comments

Certlabt/wd98/1-99

Salmon Forever / Sunny Brae Sediment Lab Stream Sampling Certification

This checklist covers the proper way to collect samples of water for turbidity and suspended sediment concentration and pertinent information.

Lucation Sampler Ralph Kravs Date 5-9-99 3J305 Bridge By C. FEDFON PM 3.38 4C-57

- 1. Equipment
- $\underline{\checkmark}$ Sample containers properly cleaned.
- Stopwatch
- Pencil
- Kite in the Rain note paper (field data sheet). Notebook
- Tape measure (used plastic or fiberglass to resist rust).
- 2. Safety

 $\frac{NA}{E}$ Established a safe path to the site: streambanks are soft and slippery.

 $\overline{}$ Never waded into water deeper than knees.

_____ Took a friend to monitor at night.

 $\underline{\checkmark}$ Trusted judgement above all else - no sample is worth personal injury.

3. Sampling location

Streambank:

curve of the river is often a good place to sample since the main current tends to hug this bank.

 $\underline{\partial} \underline{h}$ In shallow stretches, carefully waded into the center current to collect the sample.

Culvert:

 \underline{NH} Sampled culvert outflow if access is safe, (the flow here is well mixed)

Bridge:

_____ Sampled the main flow section by lowering a bottle on a weighted string or tape measure into flow several inches.

STRING _ WT - CLAMP - MONTH UPWARD

4. Sampling Procedure

A. Grab Sampling with Plastic Bottles / HACH Cells

____ Removed the cap from the bottle just before sampling. Avoided touching the insid of the bottle or the cap.

____ Wading: Tried to disturb as little bottom sediment as possible. Careful not to colle water that has sediment from bottom disturbance. Stood facing upstream. Collected th water sample on upstream side, in front.

_____ Held the bottle near its base and plunged it (opening downward) below the water surface. If using an extension pole, removed the cap, affixed the bottle and plunged it into the upstream waters.

____ Collected water sample 2 to 6 inches beneath the surface or mid-way between the surface and the bottom if the river reach is shallow.

_____ Turned the submerged bottle into the current and upward and away.

 $\underline{\checkmark}$ Left a small air space in sample bottle. Recapped the bottle carefully, remembered not to touch or contaminate the inside.

____ Labeled the bottle with the site location, sampling date and time. Recorded on rite-in-rain note paper or field data sheet:

Recorded sampling date, time and location .

____ Recorded fast and slow strand floating object time and distance.

____ Recorded stage.

_____ Recorded whether flow is on the rising or falling limb of the hydrograph.

B. DH-48 / Depth Integrated Sampling / Wading Rod

_____ Sampled at 5 to 15 representative spacings across the stream.

____ Graphed the cross-section water depth and width of the stream.

Recorded on rite-in-rain note paper or field data sheet:

____ Recorded sampling date, time and location.

_____ Recorded fast and slow strand floating object time and distance.

____ Recorded dead water strand edges.

souther Recorded stage. o management and manufacture minimum and manufacture and and the second stage of t

_____ Recorded whether flow is on the rising or falling limb of the hydrograph.

C. Velocity Measurements w / floating object

 $\underline{\checkmark}$ Straight, uniform stream reach.

 $\underline{\checkmark}$ Reach long enough to give velocities in the 6-12 second range at high flow.

Graphed the cross-section water depth and width of the stream. $\sim T$ $\gamma \in T$

 \rightarrow A Established benchmark reference for cross-section, if new site.

 $_$ Elapsed time for object to traverse velocity section taken to nearest 0.1 second $_$ Distance of velocity section measured to nearest inch. $\rightarrow \diamond$ (

_____ Object time and distance measured in fast strand flow and slow strand flow.

____ Strand widths recorded. PA

 \checkmark Read stage to nearest 0.1 of a foot or nearest inch.

____ Staff plate or bridge rail or culvert invert correlated to crossection. $\operatorname{Not}^{\vee}$

5. Recording Data

 $\underline{\checkmark}$ Location

____Date

Time

 $\underline{\checkmark}$ Note date, time, and approximate elapsed time since start of rain.

_____Note staff/stage gauge water level (or distance down from the bridge guardrail). ______Time and distance of floating object in fast and or slow strand

Estimated width of velocity strands, dead water, total wetted creek width.

NA RR or RL if sampled at one side. RRIDEF MIDDLE

6. Proper Labeling

Bottle:

 $_$ Location, Date, and Time.

Velocity and Distance and Stage if possible on bottle.

7. Storing the Sample

Kept in a dark and cool place and / or refrigerated.

____ Returned to the Sunny Brae Sediment Lab for turbidity analysis within 48 hours if possible.

HACH JOSSECTION e bridge à

Salmon Forever / Sunny Brae Sediment Lab Stream Sampling Certification

This checklist covers the proper way to collect samples of water for turbidity and suspended sediment concentration and pertinent information.

Sampler STACEY Kerr Date 5-24-99 LARK FENTON

1. Equipment

 \checkmark Sample containers properly cleaned.

Stopwatch

____Pencil

 $_$ Rite in the Rain note paper (field data sheet).

____ Tape measure (used plastic or fiberglass to resist rust).

2. Safety

 $\underline{}$ Established a safe path to the site: streambanks are soft and slippery.

Never waded into water deeper than knees.

 N^{k} Took a friend to monitor at night.

Trusted judgement above all else - no sample is worth personal injury.

3. Sampling location

Streambank:

If possible, sampled the main current near the center of the stream. The outside curve of the river is often a good place to sample since the main current tends to hug this bank.

_____ In shallow stretches, carefully waded into the center current to collect the sample.

Culvert:

 χ ____ Sampled culvert outflow if access is safe, (the flow here is well mixed)

Bridge:

 \checkmark Sampled the main flow section by lowering a bottle on a weighted string or tape measure into flow several inches.

4-5"

 $\underline{}$ Read stage to nearest 0.1 of a foot or nearest inch.

_____ Staff plate or bridge rail or culvert invert correlated to crossection.

____ Staff plate isn't under water at high, flow and is protected from debris.

5. Recording Data

Location

____Time

 \underline{N} Note date, time, and approximate elapsed time since start of rain.

Note staff/stage gauge water level (or distance down from the bridge guardrail).

Bridge Rai

 $\frac{PR}{PR}$ Time and distance of floating object in fast and or slow strand

 $\underline{N}\underline{A}$ Estimated width of velocity strands, dead water, total wetted creek width.

 $\Im \mathfrak{P}$ RR or RL if sampled at one side.

6. Proper Labeling

Bottle:

Location, Date, and Time.

7. Storing the Sample

 \mathcal{L} Kept in a dark and cool place and / or refrigerated.

 \swarrow Returned to the Sunny Brae Sediment Lab for turbidity analysis within 48 hours if possible.

buildge PUC trom de (July ~Jee Comments: stuc

____ Read stage to nearest 0.1 of a foot or nearest inch.

_____ Staff plate or bridge rail or culvert invert correlated to crossection.

_____ Staff plate isn't under water at high flow and is protected from debris. $B_{r} = R_{r} = R_{r}$

5. Recording Data

____Date

_____Time

 $\underline{N} \xrightarrow{K}$ Note date, time, and approximate elapsed time since start of rain.

 \checkmark Note staff/stage gauge water level (or distance down from the bridge guardrail).

 \underline{P} Time and distance of floating object in fast and or slow strand

 $\underline{N} \xrightarrow{R}$ Estimated width of velocity strands, dead water, total wetted creek width. $\underline{N} \xrightarrow{R}$ RR or RL if sampled at one side.

6. Proper Labeling

Bottle:

Location, Date, and Time.

7. Storing the Sample

 \mathcal{L} Kept in a dark and cool place and / or refrigerated.

 \checkmark Returned to the Sunny Brae Sediment Lab for turbidity analysis within 48 hours if possible.

Pole From buildge PUC ngee Comments:

Salmon Forever / Sunny Brae Sediment Lab Stream Sampling Certification

This checklist covers the proper way to collect samples of water for turbidity and suspended sediment concentration and pertinent information.



1. Equipment

 $\underline{\checkmark}$ Sample containers properly cleaned.

____Stopwatch

____Pencil

 $\underline{\checkmark}$ Rite in the Rain note paper (field data sheet).

____ Tape measure (used plastic or fiberglass to resist rust).

2. Safety

 \underline{V} Established a safe path to the site: streambanks are soft and slippery.

 $_\checkmark$ Never waded into water deeper than knees.

 $\underline{\mathcal{D}^{\kappa}}$ Took a friend to monitor at night.

 $_$ Trusted judgement above all else - no sample is worth personal injury.

3. Sampling location

R Streambank:

If possible, sampled the main current near the center of the stream. The outside curve of the river is often a good place to sample since the main current tends to hug this bank.

 λP In shallow stretches, carefully waded into the center current to collect the sample.

Culvert:

____Sampled culvert outflow if access is safe, (the flow here is well mixed)

Bridge:

 $_ _$ Sampled the main flow section by lowering a bottle on a weighted string or tape measure into flow several inches.

4. Sampling Procedure

A. Grab Sampling with Plastic Bottles / HACH Cells

 $_$ Removed the cap from the bottle just before sampling. Avoided touching the insid of the bottle or the cap.

Wading: Tried to disturb as little bottom sediment as possible. Careful not to colle water that has sediment from bottom disturbance. Stood facing upstream. Collected th water sample on upstream side, in front.

____Held the bottle near its base and plunged it (opening downward) below the water surface. If using an extension pole, removed the cap, affixed the bottle and plunged it into the upstream waters.

 $___$ Collected water sample 2 to 6 inches beneath the surface or mid-way between the surface and the bottom if the river reach is shallow.

Left a small air space in sample bottle. Recapped the bottle carefully, remembered not to touch or contaminate the inside.

 $_$ Labeled the bottle with the site location, sampling date and time.

Recorded on rite-in-rain note paper or field data sheet:

Recorded sampling date, time and location .

 $\underline{\rightarrow}A$ Recorded fast and slow strand floating object time and distance.

<u>NA</u> Recorded whether flow is on the rising or falling limb of the hydrograph.

B. DH-48 / Depth Integrated Sampling / Wading Rod

_____ Sampled at 5 to 15 representative spacings across the stream.

____ Graphed the cross-section water depth and width of the stream.

Recorded on rite-in-rain note paper or field data sheet:

_____ Recorded sampling date, time and location.

_____ Recorded fast and slow strand floating object time and distance.

____ Recorded dead water strand edges.

souther Recorded stage. O managed at a managed and and pairing and a second at a

_____ Recorded whether flow is on the rising or falling limb of the hydrograph.

C. Velocity Measurements w / floating object

_____ Straight, uniform stream reach.

____ Reach long enough to give velocities in the 6-12 second range at high flow.

_____ Graphed the cross-section water depth and width of the stream.

____ Established benchmark reference for cross-section, if new site.

____ Elapsed time for object to traverse velocity section taken to nearest 0.1 second

____ Distance of velocity section measured to nearest inch.

_____ Object time and distance measured in fast strand flow and slow strand flow.

_____ Strand widths recorded.

— Read stage to nearest 0.1 of a foot or nearest inch.

 $NA_{A_{A_{A_{A}}}}$ Staff plate or bridge rail or culvert invert correlated to crossection.

 $\sim A$ Staff plate isn't under water at high flow and is protected from debris.

bridge vail

5. Recording Data

 \checkmark Date

✓ Time

 PA_{-} Note date, time, and approximate elapsed time since start of rain.

Note staff/stage gauge water level (or distance down from the bridge guardrail). Time and distance of floating object in fast and or slow strand

24 Estimated width of velocity strands, dead water, total wetted creek width, JSUALLY FASTEST STRAND

 $\underline{N} \stackrel{\text{\tiny A}}{\longrightarrow} RR$ or RL if sampled at one side.

6. Proper Labeling

Bottle:

Location, Date, and Time.

Velocity and Distance and Stage if possible on bottle.

TAPE

7. Storing the Sample

 \checkmark Kept in a dark and cool place and / or refrigerated.

Returned to the Sunny Brae Sediment Lab for turbidity analysis within 48 hours if possible.

Comments: _	UseQ	pole	Æ	bridge	

Salmon Forever / Sunny Brae Sediment Lab Stream Sampling Certification

HY97

This checklist covers the proper way to collect samples of water for turbidity and suspended sediment concentration and pertinent information.

Sampler BOG LONDON Date 5-24-99 By CLANK FENTON HOWARD HTS Br

1. Equipment

Sample containers properly cleaned.

<u>Stopwatch</u>

 $\underline{\checkmark}$ Rite in the Rain note paper (field data sheet).

 $\underline{\checkmark}$ Tape measure (used plastic or fiberglass to resist rust).

2. Safety

____ Established a safe path to the site: streambanks are soft and slippery.

 \checkmark Never waded into water deeper than knees.

Took a friend to monitor at night.

 $_$ Trusted judgement above all else - no sample is worth personal injury.

3. Sampling location

Streambank:

If possible, sampled the main current near the center of the stream. The putside curve of the river is often a good place to sample since the main current tends to hug this bank.

_____ In shallow stretches, carefully waded into the center current to collect the sample.

Culvert:

 $\mathcal{D}\mathcal{P}$ Sampled culvert outflow if access is safe, (the flow here is well mixed)

Bridge:

 $\underline{\checkmark}$ Sampled the main flow section by lowering a bottle on a weighted string or tape measure into flow several inches.

4. Sampling Procedure

A. Grab Sampling with Plastic Bottles / HACH Cells

 \bot Removed the cap from the bottle just before sampling. Avoided touching the insid of the bottle or the cap.

 \checkmark Wading: Tried to disturb as little bottom sediment as possible. Careful not to colle water that has sediment from bottom disturbance. Stood facing upstream. Collected th water sample on upstream side, in front.

 $___$ Held the bottle near its base and plunged it (opening downward) below the water surface. If using an extension pole, removed the cap, affixed the bottle and plunged it into the upstream waters.

Collected water sample 2 to 6 inches beneath the surface or mid-way between the surface and the bottom if the river reach is shallow.

 $___$ Turned the submerged bottle into the current and upward and away.

Left a small air space in sample bottle. Recapped the bottle carefully, remembered not to touch or contaminate the inside.

_____Labeled the bottle with the site location, sampling date and time.

Recorded on rite-in-rain note paper or field data sheet:

Recorded sampling date, time and location .

 \sim Recorded fast and slow strand floating object time and distance. μ_{10}

 \square Recorded whether flow is on the rising or falling limb of the hydrograph.

B. DH-48 / Depth Integrated Sampling / Wading Rod

_____ Sampled at 5 to 15 representative spacings across the stream.

___ Graphed the cross-section water depth and width of the stream.

Recorded on rite-in-rain note paper or field data sheet:

_____ Recorded sampling date, time and location.

- _____ Recorded fast and slow strand floating object time and distance.
- ____ Recorded dead water strand edges.

_____ Recorded whether flow is on the rising or falling limb of the hydrograph.

C. Velocity Measurements w / floating object

 $\frac{V}{V}$ Straight, uniform stream reach.

 \sim Reach long enough to give velocities in the 6-12 second range at high flow.

 $\stackrel{\text{PP}}{\longrightarrow}$ Graphed the cross-section water depth and width of the stream.

NA Established benchmark reference for cross-section, if new site.

 $_$ Elapsed time for object to traverse velocity section taken to nearest 0.1 second $_$ Distance of velocity section measured to nearest inch.

 $\underline{} \rightarrow P$ Object time and distance measured in fast strand flow and slow strand flow. $\underline{} \rightarrow P$ Strand widths recorded.

____ Read stage to nearest 0.1 of a foot or nearest inch?

Staff plate or bridge rail or culvert invert correlated to crossection.

Staff plate isn't under water at high flow and is protected from debris.

5. Recording Data

____ Location

L Date

____ Time

 ΔA Note date, time, and approximate elapsed time since start of rain. $\nabla \rho$

Note staff/stage gauge water level (or distance down from the bridge guardrail).

_____ Time and distance of floating object in fast and or slow strand

 $\underline{\mathcal{N}}^{\underline{\mathcal{N}}}$ Estimated width of velocity strands, dead water, total wetted creek width.

 \underline{NA} RR of RL) if sampled at one side.

6. Proper Labeling Bottle:

 \checkmark Location, Date, and Time.

Velocity and Distance and Stage if possible on bottle.

7. Storing the Sample

 \checkmark Kept in a dark and cool place and / or refrigerated.

 $___$ Returned to the Sunny Brae Sediment Lab for turbidity analysis within 48 hours if possible.

Comments: side Pa