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BY EMAIL

To: Regional Executive Directors

From: Bill Howard
Director
Revenue Branch

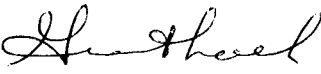
**Re: Amendment No. 2 to the *Provincial Logging Residue
and Waste Measurement Procedures Manual***

I hereby approve Amendment No. 2 to the *Provincial Logging Residue and Waste Measurement Procedures Manual*, and attach a copy for your use.

The highlights of the amendment can be found on Page ii.

This amendment will come into force on January 1, 2006.




for Bill Howard
Director
Revenue Branch

Attachment



**BRITISH
COLUMBIA**

Ministry of
Forests
and Range



**MANUAL REVISION
TRANSMITTAL**

<p>FOR FURTHER INFORMATION OR IF YOU HAVE A CHANGE OF ADDRESS, PLEASE CONTACT:</p> <p>John Wai Residue Forester and Log Salvage Policy Forester Revenue Branch Ministry of Forests and Range 6th Floor - 727 Fisgard Street Victoria, BC V8W 1R8 Phone: 356-7671 PROFS userid: John.Wai@gov.bc.ca FAX: 387-5670</p>	MANUAL TITLE	
	Prov. Logging Residue & Waste Measurement Procedures Manual	
	AMENDMENT	ISSUE DATE
	Amendment No. 2	January 1, 2006
MANUAL CO-ORDINATOR		
Judy Laton Manuals Co-ordinator		
AUTHORIZATION (Name, Title)		
W. Howard Director, Revenue Branch		

Please make the following changes to your copy of the above Ministry manual.

ACTION (Remove/Insert)	(VOL.) CHAPTER-SECTION-SUBJECT TABLE OF CONTENTS	PAGE(S)	COMMENTS
REMOVE	Table of Contents	v - vi	After Table of Contents Tab
INSERT		v - vi	
REMOVE	Chapter 7	7 - 10	After Chapter 7 Tab
INSERT		7 - 10	
REMOVE	Appendix	13 - 20	After Appendix Tab
INSERT		13 - 22	
INSERT	Letter from Bill Howard, Director Transmittal Sheet		After Amendments Tab

6.5 Non-Compliance With Check Survey Standards	6-8
6.6 Material Disposed of Prior to Waste Assessments.....	6-9

7 Reporting

7.1 Data Compilation	7-2
7.2 Reporting Requirements.....	7-3
7.3 Review of Reports.....	7-6
7.3.1 Report Checklist.....	7-6
7.4 Processing Waste Volume Estimate (FS 702).....	7-8
7.4.1 Waste Rate.....	7-8
7.4.1.1 Obtaining Waste Rate.....	7-9
7.4.1.2 Coding Rates	7-10

Appendices

Appendix 1 Glossary.....	A-2
Appendix 2 Standing Stem Harvesting	A-8
A2.1 Standing Stem Harvesting	A-8
A2.2 Waste Accounting Methodology	A-8
A2.3 Standing Stem Harvesting Tables	A-10
A2.3.1 Species – Douglas Fir.....	A-10
A2.3.2 Species – Western Red Cedar	A-11
A2.3.3 Species – Yellow Cedar	A-12
Appendix 3 Waste Rate Determination.....	A-13
A3.1 Cutblocks with Harvesting	A-13
A3.2 Cutblocks with No Harvesting	A-13
A3.3 Deciduous Waste Rate.....	A-14
Appendix 4 Riparian Management Zone (RMZ).....	A-15
A4.1 Assessment Method.....	A-15
A4.2 Stream Clean-out.....	A-15
Appendix 5 Waste Benchmarks	A-16

List of Figures

Figure 1.1 Waste Assessment Policy.....	1-2
Figure 3.1 Ocular Estimate Form.....	3-8
Figure 4.1 Plot Sampling Process.....	4-2
Figure 4.2 Strip and Plots Placement.....	4-9
Figure 5.1 Measure Factor.....	5-6
Figure 5.2 Border Plot.....	5-10
Figure 5.3 Measuring Slabs.....	5-16
Figure 5.4 Avoidable and Unavoidable Waste (High Side).....	5-19
Figure 5.5 Windfall Stump.....	5-21
Figure 5.6 Examples of Bucking Waste.....	5-23
Figure 5.7 Avoidable/unavoidable Bucking Waste.....	5-24
Figure 5.8 Examples of Breakage.....	5-25
Figure 5.9 Forked Log.....	5-26
Figure 5.10 Measuring Broken Tops.....	5-31
Figure 5.11 Measuring Shattered Ends.....	5-31
Figure 5.12 Front of FS 444 (Block Summary Card).....	5-49
Figure 5.13 Back of FS 444 (Block Summary Card).....	5-50
Figure 5.14 Front of the FS 161 (Plot Tally Card).....	5-59
Figure 5.15 Back of the FS 161 (Plot Tally Card).....	5-60
Figure 5.16 Determining and Recording Grade 6 Butt Diameters.....	5-67
Figure 7.1 FS 702 - Volume Estimate - Waste Form (Page 1).....	7-4
Figure 7.2 Volume Estimate - Waste Form (Page 2).....	7-5
Figure A2.1 Douglas Fir.....	A-10
Figure A2.2 Western Red Cedar.....	A-11
Figure A2.3 Yellow Cedar.....	A-12
Figure A5.1 Sample of Worksheet for Waste Billing Against Benchmarks (Coast).....	A-18
Figure A5.2a Sample of Worksheet for Waste Billing Against Benchmarks (Interior Endemic).....	A-19
Figure A5.2b Sample of Worksheet for Waste Billing Against Benchmarks (Interior Catastrophic where Avoidable Grade 3 is less than Waste Benchmark).....	A-20
Figure A5.2c Sample of Worksheet for Waste Billing Against Benchmarks (Interior Catastrophic where Avoidable Grade 3 is greater than or equal to Waste Benchmark).....	A-21

4. Sampling Statistics:

a. Cut Block Option only.

- i. For blocks over 25 ha check that the sampling error requirement for the dispersed area has been met.

The sampling error requirement for blocks under 25 ha has been waived.

- ii. For blocks that have at least 3 ha of accumulation piles check that the accumulation sampling error requirement has been met.

The sampling error requirement for blocks with less than 3 ha of accumulations has been waived.

b. Aggregate Option only

- i. The sampling statistics and sampling summary reports don't need to be checked until the entire aggregate has been completed.

- ii. If the aggregate has been completed check that the sampling error requirements have been met.

If the sampling error requirements have not been met, check whether the licensee used a reasonable C.V. to determine the number of plots required and whether they established the required number of plots.

If the answer is yes then the aggregate is acceptable.

If the answer is no, a higher C.V. may be required from the licensee before approving the licensee's Annual Waste Assessment Plan for the following year.

5. FS 702 Waste Volume Estimate

Check the following:

- a. The waste surveyor number and return number (each subsequent FS 702 is incremented by one) have been filled out and that the waste surveyor has a valid Waste Surveyor Licence or Scaling Licence Number. If not, check for sponsoring forestry professional's name and number if plot surveys are submitted.

The old FS 72 format is no longer acceptable and must be converted to the current FS 702 format as in Figure 7.1.

7.4 Processing Waste Volume Estimate (FS 702)

Once checking is completed as per Section 7.3.1, the ministry will obtain and code the applicable waste rates on the FS 702.

7.4.1 Waste Rate

The application of a waste rate is dependent on whether there has been timber harvesting on a cutting authority. If timber has been harvested on a cutting authority, then a waste rate is determined and applied on a cutblock basis.

1. Cutblocks with Harvesting

For cutblocks with harvesting, a waste rate is calculated for the cutblock using the weighted average stumpage rate charged for the sawlogs (graded sawlogs on the Coast, and grade code blank sawlogs in the Interior) from invoices issued for a twelve-month period. The twelve-month period ends the month after the month that primary logging was completed for the cutblock. This applies to dispersed waste, accumulations and standing timber within the cutblock. Remaining areas of standing timber within the cutblock, that are left unharvested at the expiry, surrender, termination or cancellation of the cutting authority, would be waste billed using the same method, that is, the waste rate is based on the primary logging completion date for the cutblock. Refer to Appendix 3.1 for a description of determining the waste rate for cutblocks with harvesting.

Note that cutblocks may be split for waste assessment purposes (refer to page 5-38).

2. Cutblocks with No Harvesting but Harvesting has Occurred on the Cutting Authority

If there has been no harvesting on the cutblock but there has been harvesting for the cutting authority, then the waste rate for the cutblock is derived using the average of the cutting authority's four quarterly timber appraisal stumpage rate (plus any bonus and levies where applicable) in effect during the twelve-months preceding the date of cutting authority's expiry, surrender, termination or cancellation, as the case may be. Refer to Appendix 3.2 for a description of determining the waste rate for cutblocks where no harvesting has taken place but there has been harvesting from the cutting authority.

3. Cutblocks with No Harvesting and No Harvesting has Occurred on the Cutting Authority

If there has been no harvesting on the cutblock, and there has been no harvesting on the cutting authority, then waste billings do not apply to cutblocks upon expiry, surrender, termination or cancellation of the cutting authority, as the case may be.

7.4.1.1 Obtaining Waste Rate

To obtain the waste rate for a timber mark go into the Harvest Billing System (HBS) at <http://www.for.gov.bc.ca/hva/manuals/hbs/> and use the following procedure:

1. Click on the **Queries Tab** at the top of the page.
2. Under the **Harvest Reports** heading, click on **By Date of Invoice (Billing History)** and the program will take you to the **Mark Monthly Billing / Scaling History Selection** page. Fill out the following information;
 - a. Under **Report Type**, click on the **Billing History** button.
 - b. Under **Interval (up to 12-months)**, enter the **12-month period** using the drop down boxes (add one month to the primary logging date to obtain the end date and go back 12-months from the end date).
 - c. Click the **timber mark button** and enter the applicable timber mark.
 - d. Under **Species**, click on the down arrow. You will normally select **Coniferous Species**. Select **Deciduous Species** if you need a rate for the deciduous species.
 - e. Under **Product**, click on the down arrow and select **Logs**.
 - f. Under **Grade**, click on the down arrow and select **Utility and Better (all grades except 4, 5, 6, Y and Z)** for the Coast or ungraded for the Interior.
 - g. Make sure that the **Exclude Firmwood Reject** and **Exclude Waste/Residue** buttons are checked.
3. Click on the **Configure PDF Report** button at the bottom of the page and the program will take you to the **mark Monthly Billing Report Configuration** page.
 - a. Under the heading **Group Output by**, click on **Region Harvested/District Harvested**.
 - b. Under the heading **Detail Lines Displayed**, you must click on at least the **Volume/Value (\$/m³)** box. Also clicking on the **Volume** and **Value** boxes will provide the total volume billed and the total value billed for each month as well as the totals for the 12-month period.
 - c. Under the heading **Include Species/Product/Grade Groups** you will normally click on the **None** button. You can click on **Species** or **Species and Grade** if you need to be more specific but it is not normally required for Waste.
4. Click on the **Send PDF Report** button at the bottom of the page and you will be taken to the **Report Delivery Address Screen** where you will be shown what you

have requested (format, billing date (12-month period), timber mark, species, product, grade, exclusions and group by).

If the information is correct click on the **Submit** button and the report will be sent to by e-mail.

If the information is not correct go back and correct it before submitting the report. The **View PDF Preview** button just shows you how the report will be laid out but does not contain any of the data you requested.

5. Clicking on the Internet address in the e-mail note that is sent by the HBS system will take you into your report where you can save and/or print the report.
6. If no average stumpage rate is available from the HBS due to no harvest in the twelve-month period, use the average timber appraisal stumpage rate for the timbermark derived in a twelve-month period preceding from the primary logging completion or cutting authority expiry date.

7.4.1.2 Coding Rates

Due to the implementation of the waste billing benchmarks, the rates obtained from HBS need to be adjusted in order that only the volumes in excess of the benchmarks are billed monetarily.

At the time of waste assessment report submission, licensees are required to complete the worksheet for waste billings against benchmarks Figure A5.1 (Coast), Figure A5.2a (Interior Endemic) and Figure A5.2b and A5.2c (Interior Catastrophic). Follow the procedures outlined in the worksheets for adjusting and coding the appropriate stumpage rates for the applicable log grades.

Using the worksheet procedure, only the waste volumes in excess of the waste benchmark are billed monetarily by applicable grade and the entire waste volume of the cutblock is charged to the licensee's cut control.

Appendix 3 Waste Rate Determination

The determination of the waste rate is dependent on whether there has been timber harvesting on a cutblock.

A3.1 Cutblocks with Harvesting

For cutblocks with harvesting, the waste rate for the cutblock is derived from the weighted average stumpage rate charged for the sawlogs (graded sawlogs on the Coast, grade code blank sawlogs in the Interior) in invoices issued during the 12-month period ending one month after the month in which primary logging on the cutblock area was completed. The formula to be used is:

$$WR = TS/TV$$

Where:

WR	=	Waste Rate for the cutting authority.	
TS	=	Total billed sawlog stumpage (sum of Upset Stumpage*, and Bonus Bid) for the twelve-months prior to one month after the month primary logging was declared completed on the cutblock.	
		*	Include silviculture and development levies.
TV	=	Total billed volume (accumulated volume in cubic metres that derived the total billed stumpage for the sawlogs) for the twelve-months prior to one month after the month primary logging was declared completed on the cutblock.	

A3.2 Cutblocks with No Harvesting

If there has been no harvesting on the cutblock, but there has been harvesting from the cutting authority, then the waste rate for the cutblock is derived using the average of the cutting authority's four quarterly timber appraisal stumpage rates (plus any bonus and levies where applicable) in effect during the twelve-months preceding the date of the cutting authority's expiry, surrender, termination or cancellation, as the case may be. The formula to be used is:

$$WR = ACASR$$

Where:

WR	=	Waste Rate for the cutblock.
ACASR	=	Average Cutting Authority Stumpage Rate over the four quarters preceding the expiry, surrender, termination or cancellation date.

Example 1

If Cutting Authority A (CP A) became effective on September 5, 2003, and expires on September 4, 2005, then the ACASR is the simple average of the four quarterly stumpage rates for CP A as at October 1, 2004, January 1, 2005, April 1, 2005 and July 1, 2005.

Example 2

If Cutting Authority B (CP B) became effective on April 20, 2005, and is surrendered on September 5, 2005, then the ACASR is the simple average of the April 20, 2005 and July 1, 2005 stumpage rates for CP B.

A3.3 Deciduous Waste Rate

For deciduous species, the waste rate is either the appraised stand as a whole reserve rate, or if there is no appraised rate, use the specified fixed rate for the species in the Coast or Interior Appraisal Manuals, plus any bonus bid and levies where applicable.

Appendix 4 Riparian Management Zone (RMZ)

A4.1 Assessment Method

For waste assessments to be conducted within the riparian management zone, the assessment method should commensurate with the silvicultural system used, as follows:

•	single tree selection	-	100 percent piece scale, or 50 m ²
•	group selection	-	100 percent piece scale or (circular or rectangular) plot of 50 to 400 m ² that best fits the group selection harvested area.

Refer to Section 4.7 for assessing partial cutting (variable retention) cutblocks, and Section 5.7.2 for stratum codes.

A4.2 Stream Clean-out

For stream clean-out conducted in accordance with the Riparian Management Area Guidebook, the waste classification procedures are as follows:

1. Where a log is left across a creek, classify the log as unavoidable for environmental reasons.
2. If a creek was machine cleaned and it was reasonable to recover the log pieces, classify the pieces as avoidable.
3. If a creek was hand cleaned and the log was bucked into small segments and thrown out of the creek channel, classify the pieces as unavoidable.

Appendix 5 Waste Benchmarks

1. Benchmarks

Waste benchmarks will be in effect until April 1, 2007.

On an individual cut block basis, the following waste benchmarks in cubic meters per hectare will be used for monetary billing of avoidable waste:

Coast	Immature	Mature
Normal	10 m ³ /ha	35 m ³ /ha

Interior	Dry Belt	Transition Zone	Wet Belt
Normal	4 m ³ /ha	10 m ³ /ha	20 m ³ /ha

The waste benchmark volume of a cutblock is derived by multiplying the value of the benchmark with the total of the dispersed, accumulation and standing trees sub population areas reported in a waste assessment of the cutblock.

2. Benchmark Calculations and Billings

a. Coast

Avoidable waste volumes in sawlog grades (X or better) from the dispersed, accumulated and the standing tree subpopulations of the cutblock will be applied to the benchmarks.

Where the avoidable waste volumes in sawlog grades are below the established benchmark for the cutblock, no monetary billing of avoidable waste in sawlog grades will be made.

Where the avoidable waste volumes in sawlog grades are above the established benchmark for the cutblock, monetary billings will be made on the sawlog grade volumes exceeding the benchmark.

Avoidable waste volumes in Y grade will not be applied to the benchmark but will be billed monetarily in all cases.

b. Interior

Avoidable waste volumes in sawlog grade and catastrophic grade 3 from the dispersed, accumulated and the standing tree subpopulations of the cutblock

will be applied to the benchmark. Catastrophic grade 3 will be applied to the benchmark first followed by the sawlog grade.

Where the avoidable waste volumes in sawlog grades and catastrophic grade 3 are below the established benchmark for the cutblock, no monetary billing of avoidable waste in sawlog and catastrophic grade 3 will be made.

Where the avoidable waste volumes in sawlog grade and catastrophic grade 3 are above the established benchmark for the cutblock, monetary billings will be made on the sawlog and the catastrophic grade 3 volumes exceeding the benchmark.

Avoidable waste volumes in endemic grade 3, and grade 4 will not be applied to the benchmark but will be billed monetarily in all cases.

3. Benchmark Eligibility

All cutblocks where primary logging had been completed after January 1, 1999 will qualify for the waste benchmarks.

The benchmarks are administered on an individual cut block basis, regardless of whether the cutblock is in the Cutblock, the Aggregate or the Ocular Reporting Unit. Therefore, each cut block must be individually assessed to determine whether the avoidable waste within the cutblock is above or below the benchmark.

No waste benchmarks will be applied to log decks that in the determination of a forest officer are subject to scaling at a scale site or being field scaled. Such log decks must be clearly marked by the licensee and not to be included in the waste assessment.

Waste benchmarks do not apply to the unharvested cutblocks.

No waste benchmark will be applied to an area of a cutblock where the wasted timber volume compromised the site-specific forest management objective(s). The area must be delineated, waste assessed and billed separately from the remaining area of the cutblock.



 BRITISH COLUMBIA	COAST Worksheet for Waste Billing Against Benchmarks	Ministry of Forests 
To be Completed by Licensees		
Licence No.	CP No.	Cut Block
Timber Mark		Reporting Unit No.
Primary Logging Completion Date		Cut Block Net Area ha
Location		Stand/Site Type
Calculations		
Avoidable waste (sawlog)	= _____	M ³ /ha..... (A)
Established benchmark	= _____	M ³ /ha..... (B)
(A) - (B)	= _____	M ³ /ha..... (C)
If (C) < or = 0.0000, stop		
If (C) > 0.0000, proceed as follows:		
Waste Monetary Reduction Factor (WMRF) =	(C)/(A) = _____	.....(D) <small>(to four decimals)</small>
To be Completed by Forest Service		
Processing		
If (C) is < or = 0.0000, on FS 702, code:		
Avoidable all species sawlogs (X or better):	\$0.00/m ³	
Avoidable all species grade Y:	\$0.25/m ³	
Unavoidable all species all grades:	\$0.00/m ³	
If (C) is > 0.0000, request average sawlog rate from HBS		
Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	.....(E)
Deciduous sawlog rate =	\$ _____ /m ³	.....(F)
On FS 702, code		
Avoidable coniferous species sawlogs (D x E) =	\$ _____ /m ³	
Avoidable deciduous species sawlogs: (D x F) =	\$ _____ /m ³	
Avoidable all species grade Y: \$0.25/m ³		
Unavoidable all species all grades: \$0.00/m ³		
Approved by Forest Officer (signature)	Date	

Figure A5.1 Sample of Worksheet for Waste Billing Against Benchmarks (Coast).



	INTERIOR ENDEMIC Worksheet for Waste Billing Against Benchmarks	Ministry of Forests 
To be Completed by Licensees		
Licence No.	CP No.	Cut Block
Timber Mark	Reporting Unit No.	
Primary Logging Completion Date	Cut Block Net Area ha	
Location	Stand/Site Type	
Calculations		
Avoidable Waste:		
Sawlog	= _____	M ³ /ha.... (A)
Grade 3	= <u>0</u>	M ³ /ha.... (B)
Establish benchmark	= _____	M ³ /ha.... (C)
[(A) + (B)] - (C)	= _____	M ³ /ha.... (D)
If (D) < or = 0.0000, stop		
If (D) > 0.0000, proceed as follows:		
Waste Monetary Reduction Factor	(WMRF) = $\frac{D}{A} = \frac{\quad}{\quad}$(E)	
(to four decimals)		
To be Completed by Forest Service		
Processing		
If (D) is < or = 0.0000, on FS 702, code:		
Avoidable all species sawlogs:		\$0.00/m ³
Avoidable all species grade 3:		\$0.25/m ³
Avoidable all species grade 4:		\$0.25/m ³
Unavoidable all species all grades:		\$0.00/m ³
If (D) is > 0.0000, request average sawlog rate from HBS		
Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	.....(F)
Deciduous sawlog rate =	\$ _____ /m ³	.....(G)
On FS 702, code		
Avoidable coniferous species sawlogs (E x F) =	\$ _____ /m ³	
Avoidable deciduous species sawlogs: (E x G) =	\$ _____ /m ³	
Avoidable all species grade 3:	\$0.25/m ³	
Avoidable all species grade 4:	\$0.25/m ³	
Unavoidable all species all grades:	\$0.00/m ³	
Approved by Forest Officer (signature)	Date	

Figure A5.2a Sample of Worksheet for Waste Billing Against Benchmarks (Interior Endemic).



 BRITISH COLUMBIA	INTERIOR CATASTROPHIC Worksheet for Waste Billing Against Benchmarks	Ministry of Forests 
To be Completed by Licensees		
Licence No.	CP No.	Cut Block
Timber Mark	Reporting Unit No.	
Primary Logging Completion Date	Cut Block Net Area	ha
Location	Stand/Site Type	
Calculations		
Avoidable Waste:		
Sawlog	= _____	M ³ /ha..... (A)
Grade 3	= _____	M ³ /ha..... (B)
Establish benchmark	= _____	M ³ /ha..... (C)
[(A) + (B)] - (C)	= _____	M ³ /ha..... (D)
If (D) < or = 0.0000, stop		
If (D) > 0.0000, proceed as follows:		
Waste Monetary Reduction Factor		
(WMRF) =	$\frac{D}{A} =$ _____	.....(E)
	(to four decimals)	
To be Completed by Forest Service		
Processing		
If (D) is < or = 0.0000, on FS 702, code:		
Avoidable all species sawlogs:		\$0.00/m ³
Avoidable all species grade 3:		\$0.00/m ³
Avoidable all species grade 4:		\$0.25/m ³
Unavoidable all species all grades:		\$0.00/m ³
If (D) is > 0.0000, request average sawlog rate from HBS		
Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	.....(F)
Deciduous sawlog rate =	\$ _____ /m ³	.....(G)
On FS 702, code		
Avoidable coniferous species sawlogs (E x F) =	\$ _____ /m ³	
Avoidable deciduous species sawlogs: (E x G) =	\$ _____ /m ³	
Avoidable all species grade 3: \$0.00/m		
Avoidable all species grade 4: \$0.25/m ³		
Unavoidable all species all grades: \$0.00/m ³		
Approved by Forest Officer (signature)	Date	

Figure A5.2b Sample of Worksheet for Waste Billing Against Benchmarks (Interior Catastrophic where Avoidable Grade 3 is less than Waste Benchmark).



	INTERIOR CATASTROPHIC Worksheet for Waste Billing Against Benchmarks	Ministry of Forests 
To be Completed by Licensees		
Licence No.	CP No.	Cut Block
Timber Mark	Reporting Unit No.	
Primary Logging Completion Date	Cut Block Net Area	ha
Location	Stand/Site Type	
Calculations		
Avoidable Waste:		
Grade 3	= _____	M ³ /ha..... (A)
Establish benchmark	= _____	M ³ /ha..... (B)
(A) - (B)	= _____	M ³ /ha..... (C)
Waste Monetary Reduction Factor (WMRF) =	$\frac{C}{A} =$ _____	.....(D)
	(to four decimals)	
To be Completed by Forest Service		
Processing		
Request average sawlog rate from HBS		
Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	.....(F)
Deciduous sawlog rate =	\$ _____ /m ³	.....(G)
On FS 702, code		
Avoidable coniferous species sawlogs (F) =	\$ _____ /m ³	
Avoidable deciduous species sawlogs: (G) =	\$ _____ /m ³	
Avoidable all species grade 3: \$0.25/m ³ x D =	\$ _____ /m ³	
Avoidable all species grade 4: \$0.25/m ³		
Unavoidable all species all grades: \$0.00/m ³		
Approved by Forest Officer (signature)	Date	

Figure A5.2c Sample of Worksheet for Waste Billing Against Benchmarks (Interior Catastrophic where Avoidable Grade 3 is greater than or equal to Waste Benchmark).

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