

CALCULATION OF
CHIP AVERAGE MARKET VALUES



December 01, 2008

Introduction

The purpose of this paper is to identify the process used to collect the average market values for chips (Chip AMVs) and explain how the information is used to calculate the Revenue Branch Parameters for the Interior Market Pricing System.

Reporting of Chip Sales

Each month sawmill licensees' report Chip AMVs to Revenue Branch, as required by the *Forest Act* Section 136. Net Sales and volumes are reported on the "*Chip Sales AMV Monthly Report*" (Appendix 1).

Net Sales means the total value received including all bonuses and chip quality index (CQI) payments, less freight costs (if applicable), duties and penalties, which are reported in Canadian dollars. The volume can be reported in bone dry units (BDU), bone dry tons (BDTs), oven dry tons (ODTs) or cubic meters (m³). Net sales are reported separately for Whitewood, Cedar and Deciduous chips.

Chip AMVs are audited annually by the ministry's regional audit accountants.

The reporting licensees are deemed to deliver their chips sold to the closest pulp / paper mill.

Pulp Mills

Currently there are 13 pulp / paper mills in the BC Interior, which are listed below:

| Common Name | Location |
|---|---------------|
| Abitibi – Consolidated Company of Canada | Mackenzie |
| Canfor Taylor Pulp | Taylor |
| Cariboo Pulp & Paper Co. Ltd. | Quesnel |
| Celgar Pulp Ltd. | Castlegar |
| Eurocan Pulp & Paper Co. | Kitimat |
| Intercontinental Pulp Mill | Prince George |
| Canfor's Northwood Pulp Mill | Prince George |
| Pope & Talbot Ltd. | Mackenzie |
| Prince George Pulp & Paper | Prince George |
| Quesnel River Pulp Co. | Quesnel |
| Tembec Industries Ltd. | Skookumchuck |
| Tembec Industries Ltd. | Chetwynd |
| Domtar Industries (formerly Weyerhaeuser) | Kamloops |

Average Market Value Zones (AMV Zones)

For the purposes of calculating Chip AMVs reporting licensees are separated into the five AMV Zones (5 – 9)

A guideline of three (3) reporting sawmills applies to chips. If there are less than three sawmills reporting Chip AMVs in any one zone, the Chip AMV for that zone may be combined with the Chip AMV in a contiguous zone.

The five AMV Zones and the Points of Appraisal, within each zone, (as at December 01, 2008) are listed below:

| AMV Zone | Points of Appraisal | | |
|------------------------------|---|---|---|
| 5 - Northern Interior | Bear Lake Engen Houston Prince George Strathnaver | Burns Lake Fort St. James Isle Pierre Quesnel Vanderhoof | Clear Lake Fraser Lake Mackenzie Smithers |
| 6 – Skeena* | Carnaby Terrace | Hazelton | Kitwanga |
| 7 - Southern Interior | Adams Lake Canoe Creston Grand Forks Lavington Merritt Princeton Slocan Vavenby | Armstrong Castlegar Elko Kamloops Lumby Midway Radium Thrums Westbank | Canal Flats Craigellachie Galloway Kelowna McBride Okanagan Falls Revelstoke Valemount Ymir |
| 8 - South Cariboo | 100 Mile House Lytton | Boston Bar Squamish | Chasm Williams Lake |
| 9 - Fort Nelson Peace | Chetwynd | Fort St. John | Fort Nelson |

* due to low activity zone 6 currently uses zone 5 averages

Chip AMV Calculation

The Chip AMVs are produced each quarter, which are effective: January 1, April 1, July 1 and October 1. Twelve months of data, ending three months prior to the effective date, is used to calculate a volume weighted average for each AMV Zone.

Example

For a Chip AMV effective October 1, 2007, data for the 12 months ending June 30, 2007 would be used as follows:

| | |
|--|--------------------|
| 12 month average Chip AMV for Zone 5 – Northern Interior | |
| Total Volume Reported (BDU) | 3,111,265 |
| Total Amount Reported (\$) | <u>216,155,784</u> |
| Chip AMV for Zone 5 (\$ per BDU) | \$ 69.48 / BDU |

The above Chip AMV is rounded to the nearest dollar (\$69) and applied to each point of appraisal in AMV Zone 5 (Appendix 2).

Chip AMVs are published and entered into the General Appraisal System (GAS), which is used to calculate stumpage rates.

Revenue Branch reviews the Chip AMVs from each licensee and, if the data is not at fair market value it will be excluded. Market conditions, timing and other terms of the contract determine chip values. Distances from the reporting sawmill to the nearest pulp mill are ignored.

Species and Whole Log Chippers

Whitewood Chip AMVs are the source of information and used to calculate the Chip AMVs.

Cedar Chip AMVs

Reported cedar chips are not included in the calculations. However, Whitewood Chip AMVs are used to value cedar chips:

Zone 6 (Carnaby, Hazelton, Kitwanga, and Terrace) cedar chips are deemed to have the same value as whitewood chips. Both whitewood and cedar chips are milled and hauled together.

All other Zones (5, 7, 8, and 9) cedar chips are given a value at 75% of whitewood chips.

Deciduous and Whole Log Chippers

Chips reported from deciduous logs and whole log chippers are not included in the calculations.

Converting Volumes to Bone Dry Units

Chip AMVs are calculated using a volume weighted average of the chips sales reported. They are calculated using BDUs therefore all sales reported in BDTs, ODTs and m³ have to be converted to BDUs. The following are a list of the conversion factors used in the calculations.

| Units | Conversion Factor ¹ |
|----------------|--------------------------------|
| BDU | 1.0000000 |
| BDT or ODT | 0.9185917 |
| m ³ | 0.3531472 |

EXAMPLES

| WHITEWOOD | | |
|------------|--------------|--------|
| VOLUME BDT | \$ NET SALES | \$/BDT |
| 100,100 | 8,508,500 | 85.00 |

$$100,100 \text{ BDT} * 0.9185917 = 91,951.029 \text{ BDU}$$

$$8,508,500 / 91,951.029 = \$92.53/\text{BDU}$$

| WHITEWOOD | | |
|------------|--------------|--------|
| VOLUME ODT | \$ NET SALES | \$/ODT |
| 75,335 | 7,006,155 | 93.00 |

$$75,335 \text{ ODT} * 0.9185917 = 69,202.106 \text{ BDU}$$

$$7,006,155 / 69,202.106 = \$101.24/\text{BDU}$$

| WHITEWOOD | | |
|-----------------------|--------------|-------------------|
| VOLUME m ³ | \$ NET SALES | \$/m ³ |
| 83,000 | 2,550,076 | 30.72 |

$$83,000 \text{ m}^3 * 0.3531472 = 29,311.218 \text{ BDU}$$

$$2,550,076 / 29,311.218 = \$87.00/\text{BDU}$$

¹ Conversion Factors based on Forintek Canada Corp. publication No SP-24 R – 1985.

APPENDIX 1



CHIP SALES (AMV) MONTHLY REPORT

Mill Name: _____

Mill #: _____

Contact: _____

Phone: _____

Month: _____

UNITS: (Circle One)

| | | | |
|-----|-----|-----|----|
| BDU | BDT | ODT | m3 |
| 0B | 0D | 0O | 0Z |

WW

| WHITWOOD | | | | |
|--------------------|----------|--------|--------------|-----------------------|
| COMPANY SHIPPED TO | LOCATION | VOLUME | \$ NET SALES | \$ AVERAGE UNIT PRICE |
| | | | | - |
| | | | | - |
| | | | | - |
| | | | | - |
| TOTAL | | 0.000 | 0 | - |
| WHOLE LOG CHIPS | | | | |
| | | | | - |
| | | | | - |
| TOTAL | | 0.000 | 0 | - |

CE

| CEDAR | | | | |
|--------------------|----------|--------|--------------|-----------------------|
| COMPANY SHIPPED TO | LOCATION | VOLUME | \$ NET SALES | \$ AVERAGE UNIT PRICE |
| | | | | - |
| | | | | - |
| | | | | - |
| TOTAL | | 0.000 | 0 | - |
| WHOLE LOG CHIPS | | | | |
| | | | | - |
| | | | | - |
| TOTAL | | 0.000 | 0 | - |

DC

| DECIDUOUS | | | | |
|--------------------|----------|--------|--------------|-----------------------|
| COMPANY SHIPPED TO | LOCATION | VOLUME | \$ NET SALES | \$ AVERAGE UNIT PRICE |
| | | | | - |
| | | | | - |
| | | | | - |
| TOTAL | | 0.000 | 0 | - |
| WHOLE LOG CHIPS | | | | |
| | | | | - |
| | | | | - |
| TOTAL | | 0.000 | 0 | - |

NOTE NET SALES IS THE TOTAL VALUE RECEIVED INCLUDING ALL BONUSES AND CQI, LESS FREIGHT COSTS & PENALTIES.

APPENDIX 2

INTERIOR AVERAGE CHIP VALUES EFFECTIVE OCTOBER 1, 2008 For The Twelve Months Ended June 30, 2008

| APPRAISAL POINT | CODE | WW \$/BDU | CEDAR \$/BDU | APPRAISAL POINT | CODE | WW \$/BDU | CEDAR \$/BDU |
|-----------------|------|-----------|--------------|-----------------|------|-----------|--------------|
| 100 Mile House | 100M | 83 | 62 | Lillooet | LILL | 83 | 62 |
| Adams Lake | ADLK | 106 | 80 | Louis Creek | LSCK | 106 | 80 |
| Armstrong | ARMS | 106 | 80 | Lumby | LUMB | 106 | 80 |
| Bear Lake | BELK | 79 | 59 | Lytton | LYTT | 83 | 62 |
| Boston Bar | BOBA | 83 | 62 | Mackenzie | MKEN | 79 | 59 |
| Burns Lake | BSLK | 79 | 59 | McBride | MBRI | 106 | 80 |
| Canoe | CANO | 106 | 80 | Merritt | MERR | 106 | 80 |
| Carnaby | CARN | 79 | 79 | O.K. Falls | OKFA | 106 | 80 |
| Chasm | CHSM | 83 | 62 | Prince George | PRGE | 79 | 59 |
| Chetwynd | CHET | 78 | 59 | Princeton | PRIN | 106 | 80 |
| Clear Lake | CLLK | 79 | 59 | Quesnel | QUES | 79 | 59 |
| Craigellachie | CRAI | 106 | 80 | Revelstoke | REVE | 106 | 80 |
| Engen | ENGE | 79 | 59 | Smithers | SMIT | 79 | 59 |
| Fort Nelson | FTNE | 78 | 59 | Squamish | SQUA | 83 | 62 |
| Fort St. James | FTJA | 79 | 59 | Strathnaver | STRA | 79 | 59 |
| Fort St. John | FTJO | 78 | 59 | Taylor | TAYL | 78 | 59 |
| Fraser Lake | FRLK | 79 | 59 | Terrace | TERR | 79 | 79 |
| Hazelton | HAZE | 79 | 79 | Upper Fraser | UPFR | 79 | 59 |
| Houston | HOUS | 79 | 59 | Valemount | VALE | 106 | 80 |
| Isle Pierre | ISPI | 79 | 59 | Vanderhoof | VAND | 79 | 59 |
| Kamloops | KAML | 106 | 80 | Vavenby | VAVE | 106 | 80 |
| Kelowna | KELO | 106 | 80 | Westbank | WEST | 106 | 80 |
| Kitwanga | KITW | 79 | 79 | Williams Lake | WILK | 83 | 62 |
| Lavington | LAVI | 106 | 80 | Ymir | YMIR | 106 | 80 |
| Canal Flats | CAFL | 106 | 80 | | | | |
| Castlegar | CAST | 106 | 80 | | | | |
| Cranbrook | CRAN | 106 | 80 | | | | |
| Creston | CRES | 106 | 80 | | | | |
| Elko | ELKO | 106 | 80 | | | | |
| Galloway | GALL | 106 | 80 | | | | |
| Grand Forks | GRFO | 106 | 80 | | | | |
| Midway | MIDW | 106 | 80 | | | | |
| Park Siding | PASI | 106 | 80 | | | | |
| Radium | RADI | 106 | 80 | | | | |
| Slocan | SLOC | 106 | 80 | | | | |
| Thrusms | THRU | 106 | 80 | | | | |
| Ymir | YMIR | 106 | 80 | | | | |

Verified by: _____