

APPENDIX 5
QUALITY ASSURANCE REPORT

Appendix 5

Quality Assurance Report**INVENTORY AUDIT QUALITY ASSURANCE REPORT**

Volume Age Sample Check Cruise

Area Description**Region:****TSA/TFL:****Date Checked:****Mapsheet:****Polygon:****Sample:****Cruising Agency:**

Number of plots checked: ___

Checked by: _____

Number of plots cruised: ___

Cruised by: _____

Sampling Procedures and Quality Control Standards for Volume Age Sampling Stands shall comply with the Current Ministry of Forests Provincial Cruising Manual, unless otherwise stated.

A) Office Check Items

Rejection of any of the following criteria will constitute a batch sample failure and must be corrected before approval.

i) Plot Cards (FS205)

Plot cards must be completed as the examples described in appendix 6

- | | | | | |
|---------------------------------------|------|--------------------------|-----|--------------------------|
| a) All fields in plot cards completed | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| b) All coding correct | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| c) All data clearly legible | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| d) All tally cards signed | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| e) Compass notes complete and legible | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |

ii) Sample Location Maps

- | | | | | |
|--|------|--------------------------|-----|--------------------------|
| a) All plots/tie lines/ notable physical features identified | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| b) GPS tie point and plot location identified | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| c) Legend data complete | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |

iii) Photographs

- | | | | | |
|---|------|--------------------------|-----|--------------------------|
| a) All original photos returned | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| b) Tie points pinpricked and identified | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |
| c) Suitable tie points selected | Yes: | <input type="checkbox"/> | No: | <input type="checkbox"/> |

iv) GPS

a) non-corrected digital data provided Yes: No:

B) Plot Measurement Attributes

i) Species

Correctly identified (allowed 0.5 % or 1 tree in 200) Yes: No:

b) Flagging adequate Yes: No:

ii) Stem Count - Variable Radius Plot

a) Number of trees tallied _____ Number of "in" trees missed _____
 (measure and count) Number of "out" trees tallied _____

b) Total stem difference _____ Percent (%) difference _____

Objective: Allow 1 missed stem in 50, therefore, a 2.0 % error allowance.

Formula to determine % error of missed trees:

$\text{Error \%} = \frac{\text{check cruise stem count} - \text{original cruise stem count}}{\text{check cruise stem count}} \times 100$
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If the result is greater than 2.0%, all plots in the cruise project must be revisited to ensure a correct stem count is obtained.

Note: If less than 50 stems are in the check cruise and the 2.0% has been exceeded, then either sweep more plots to get to 50 stems or allow a maximum of 1 tree difference.

- dead useless (tree class 4) are not considered as a missed tree.
- missed classification of tree class 5 and 8 will be assigned as a missed tree.
- miss classification of tree class 1 or 2 called 3 or 4 is a missed tree.

Comments:

iii) Heights

a) Measured Number checked: _____ No. > 5% high _____
 No. > 5% low _____
 Percent within 5% individually (minimum allowance = 90%): _____ %

Estimated Number checked: _____ No. > 5 % high _____
 No. > 5% low _____

Percent within 10% individually (minimum allowance = 74%): ____ %

- b) Sum of all heights checked (m): Original ____ Check ____ Difference ____
Height variation (difference) ____ %
Total of all stems checked must be within 3% of the true (FS) height.

Note: For rejection of the height samples, both allowances in a and b must be exceeded.

- c) Top Height Top height trees correctly assessed Yes No

Comments:

Note: For rejection of heights only, 15 stems should be checked unless instrument is faulty.

iv) Diameters

- a) Number checked ____ No. > 2% high ____
No. > 2% low ____
Percentage within 2% individually (minimum allowance = 90%) ____ %

- b) Sum of diameters (cm): Original ____ Check ____ Difference ____
Diameter variation (difference) ____ %
Total of all stems checked must be within 2% of the true (FS) diameter.

- c) Number of trees on which breast height was out by more than 5% ____

Comments

v) Pathological Indicators

- a) Number of stems checked _____ Risk group classed high on ___ stems.
 Risk group classed low on ___ stems.
- b) Number of plots in which more than one tree was placed in wrong risk group: _____
- c) External indicators (must be within $\pm 5\%$ of total):

Pathological Indicator	Company	Forest Service
Conk		
Blind Conk		
Scar		
Fork / Crook		
Frost Crack		
Mistletoe		
Rotten Branches		
Dead / Broken Top		
Total		

Comments:

vi) Slope

- a) Number of plots checked _____ Number 5% high _____
 Number 5% low _____
 Percentage within 5% individually (minimum allowance = 90 %) _____%
- b) Sum of slopes: Original _____ Checked _____ Difference _____
 Slope variation (difference) _____ %
 Total of all slopes checked must be within 5% of the true (FS) slope.

Comments:

vii) Measurement of Distance

- a) Strip lines and/or tie lines to plots within $\pm 4\%$ of horizontal distance Yes No
 Strip lines and/or tie lines to plots within ± 4 degrees of FS bearing Yes No
- b) The last 50 m of horizontal distance for all strip chainages within $\pm 2\%$ for horizontal distance and ± 2 degrees for bearing Yes No
- Line accuracy is applicable to cumulative/total length surveyed.
- c) Flagging adequate Yes No:

viii) Ages

- a) Number of sample trees checked _____

- b) Sum of ages: Original _____ Check _____ Difference _____
Age variation (difference) _____ %
Total of all ages checked must be within 10 % of the tree (FS) age.

Comments:

Quality Assurance

- a) Check conducted while original cruisers were still in area Yes No

- b) Errors discussed with cruisers / cruising agency Yes No

Additional Comments:

Recommendation

Accept Reject

Name

Date

Comments:

Note: When multiple quality assurance conditions exist, the worst case scenario will be used for quality assurance. For example, the cruiser calls a tree dead potential and the check cruiser calls it living tree 2, this would be assessed as a missed tree and not a risk group change.

Please ensure that tally cards and photocopies of original tally cards are attached.