



**MONITORING REPORT OF PRODUCTION AND
HARVESTING YEAR 2016**

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CREA: MT-024685

CONFEA 121.050.661-0

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1. INTRODUCTION

The study area has 8,460.7463 ha, in which great part has *Tectona grandis* plantation. Currently, the stands of the K8 and Silas project are in the exploration phase, in which trees are felled and sectioned according to client demands. After, the cubing of logs take place, followed by log plating and classification in relation to their diameter, and lastly, they are grouped according to their destination.

In this context, the objective of this study is to present the results obtained from the year 2016, in the K8 and Silas project, by presenting volumetrics collected by the company, as well as to determine the accuracy of the surveys carried out in the year.

2. GENERAL INFORMATION

2.1. Owner Identification

Company Name: Floresteca S/A
Address: Rodovia BR-163, Km 510 – Bairro: Bauxi (Fazenda Panflora),
Rosário Oeste - MT
CNPJ: 74.301.482/0007-41
I.E.: 13.262.092-8
Contact: Cassiano Sasaki
E-mail: cassiano.sasaki@floresteca.com.br

2.2. Identification of Applicant

Company Name: Floresteca S/A
Address: Rodovia BR-163, Km 510 – Bairro: Bauxi (Fazenda Panflora),
Rosário Oeste - MT
CNPJ: 74.301.482/0007-41
I.E.: 13.262.092-8

2.3. Identification of the Technical Responsible

Name: Frederico Tupinambá Simões
Address: Rua Batista das Neves, 585 – Centro – Ed. TopGeo – Sala 2 -
Cuiabá – MT – CEP: 78.005-190
ID: 012.665.256-29
Qualification: Forester
Class Council n.º: 121050661-0
Phone: +55(65)98157-4874
E-mail: fredericotupinamba@hotmail.com

2.4. Identification of the Executor

Name: Augusto Cesar Braga Louzada
Address: Rua Batista das Neves, 585 – Centro – Ed. TopGeo – Sala 2 –
Cuiabá – MT – CEP: 78.005-190
ID: 028.067.691-32
Qualification: Forester
Class Council n.º: 121263227-3
Phone: (65) 98116-5924
E-mail: gutolouzada@hotmail.com

2.5. Property Identification

Name: PANFLORA FARM
City: Rosário Oeste - MT

Locality: The Project area is located in the city of Rosário Oeste, on the right side of Federal Highway – BR-364, 26.8 km from Rosário Oeste in the direction of the capital Cuiabá. according to the access sketch shown in Figure 1.

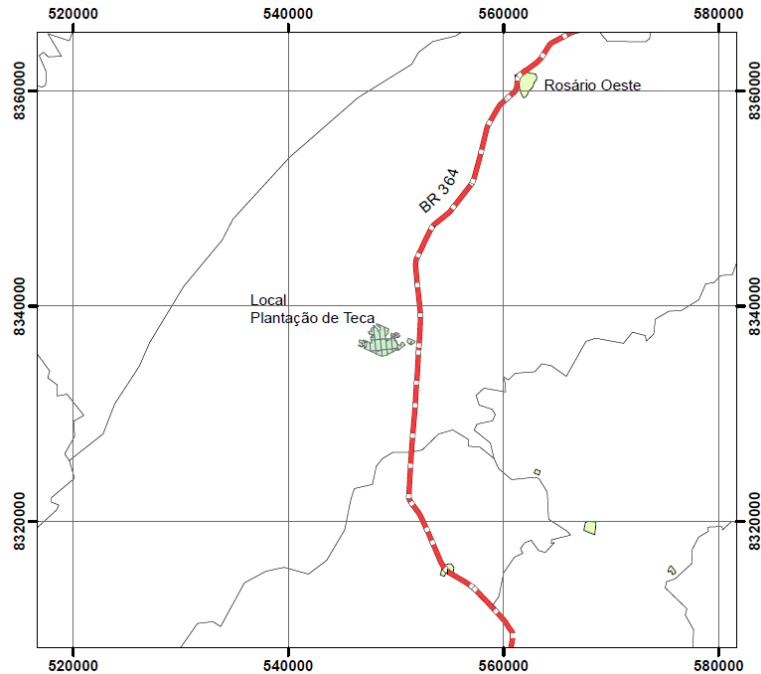


Figure 1. Location of the farm PanFlora, municipality of Rosário Oeste MT.

2.6. UTM Coordinates of the Evaluated Field

Chart 1 – Central Coordinates of Evaluated Fields.

Project	Field	East (x)	North (y)	Zone
K8	01	21L 545411	8332662	21
K8	02	21L 545115	8332319	21
K8	03	21L 544649	8331875	21
K8	04	21L 544405	8331496	21
K8	05	21L 543996	8331178	21
K8	06	21L 544415	8330561	21
K8	07	21L 544957	8330917	21
K8	08	21L 545048	8331178	21
K8	09-A	21L 544718	8330244	21
K8	09-B	21L 544991	8329833	21
K8	10	21L 545376	8330384	21

K8	11	21L 545664	8330569	21
K8	12	21L 546110	8331119	21
SIL	01	21L 547417	8336304	21
SIL	02	21L 547924	8335708	21
SIL	06	21L 549857	8335904	21
SIL	07	21L 547811	8336265	21
SIL	08	21L 548292	8336353	21
SIL	11	21L 549778	8336442	21
SIL	13	21L 547847	8336969	21
SIL	14	21L 548258	8337262	21
SIL	15	21L 548625	8337455	21
SIL	16	21L 549908	8337343	21
SIL	18	21L 549082	8337698	21

2.7. Lots Evaluated

Chart 2 - Lots evaluated at 2016.

Project	Field	Area	Number of lots evaluated
K8	01	23.0	806,810 e 839
K8	02	29.6	855, 856, 864, 874 e 1297
K8	03	37.3	890, 891, 893, 935, 936, 944, 945,977 e 978
K8	04	39.3	982, 991, 993, 1005, 1015, 1016, 1023, 1055, 1056, 1113 e 1129
K8	05	46.6	1139, 1140, 1162, 1167, 1168, 1171,1220, 1221, 1222, 1234, 1235, 1236 e 1247
K8	06	40.8	1340, 1341, 1345, 1428, 1429, 1432, 1452, 1453 e 1454
K8	07	31.0	1303, 1304, 1334 e 1335
K8	08	6.0	1264
K8	09-A	11.0	1350, 1352, 1376 e 1377
K8	09-B	18.5	1381, 1384 e 1401

K8	10	22.7	1523, 1525, 1526, 1527, 1530, 1531, 1533 e 1558
K8	11	12.9	1577, 1578, 1601, 1602 e 1606
K8	12	13.1	1622, 1623 e 1635
SIL	02	7.5	733
SIL	06	33.13	568, 571 e 576
SIL	07	44.1	641 e 642
SIL	08	50.0	414, 415, 418, 421, 424, 452, 453, 477 e 486
SIL	11	43.1	659, 672, 673, 675, 684, 749, 750, 772 e 773
SIL	13	13.34	1667 e 1669
SIL	14	52.2	1800, 1801, 1802, 1804, 1806, 1807, 1814, 1856, 1883, 1884, 1885 e 1886
SIL	15	56.3	1664, 1673, 1683, 1687, 1689, 1706, 1708, 1709, 1710, 1711, 1713, 1716, 1740, 1784, 1785, 1786, 1787, 1788, 1790, 1794, 1795, 1796, 1851 e 1852
SIL	16	21.4	610 e 654
SIL	18	19.6	1919, 1920, 1921, 1930, 1931, 1932, 1933, 1935 e 1936

3. METHODOLOGY

COLLECTION OF DATA

The process for collecting the information was based on the following steps:

Planning:

In 2016, 24 blocks were audited, of which 13 are from the K8 project and 11 from the Silas project.

Number of parcel:

We randomly selected 151 lots to represent the fields throughout the year 2016.

For lumber destined for sawmills that did not form lots, we measured the wood stacks of the above-mentioned fields on the terraces and on some trucks together with the Floresteca team, on the days when our team was in the Silas project and K8.

Measurements:

A total of 151 plots were measured for the plots throughout the year 2016, with a total of 13,139 wood logs. (Photos Annex I).

Table 1 - Number of lots and number of logs.

Class	Nº of Lots	Nº of Logs
Long	56	2,254
20-25	16	1,061
25-30	22	3,715
25-33	4	660
25-36	10	1,585
33-36	2	235
30-35	6	736
36-39	3	300
39-45	2	164
35-40	23	1,870
25-42	1	96
>40	5	395
> 42	1	68
TOTAL	151	13,139

3.1. DATES OF VISITS

Dates for indicative technical visits to reports delivered in 2016.

2015

July	10, 16 and 23
September	1, 11, 15 and 16
October	1, 2, 5, 16 and 20
November	5, 9, 11 and 24
December	1, 4, 15, 22 and 29

2016

January	15 and 27
February	5, 8 and 11
March	1, 10, 15, 16 and 30
April	6, 7, 14 and 28
May	4, 12, 24 and 25
June	2, 9, 15 and 22
July	6, 7, 13 and 19
August	10, 18 and 24
September	1, 6, 15 and 21

4. PRODUCTIVITY EVALUATION

4.1. Harvest Data per Diameter Class

In Table 2, the results of the volumes loaded by diameter class for the fields audited in the year 2016 of the project Silas and K8, where the diameter class of 25 to 30 centimeters was obtained a larger volume loaded, followed by the classes 35 to 40, 30 to 35, greater than 40 and 20 to 30 centimeters in diameter, totalizing a volume of 32,151.27 cubic meters of exported wood.

Table 2 – Harvesting Data per diameter class (Export).

EXPORT				
Project	Year	Area (ha)	Diameter class	Volume (m³)
SIL/K8	1995	722.1	20-30	1,595.473
			25-30	20,225.61
			30-35	2,372.381
			35-40	6,231.813
			> 40	1,725.992
TOTAL				32,151.27

For sawmills, six diameters classes were obtained, totaling the volume of **17,523.436** cubic meters.

Table 3 - Harvesting Data per diameter class (Domestic market).

SAWMILLS				
Project	Year	Area (ha)	Diameter Class	Volume (m³)
SIL/K8	1995	722.1	15-25	6,603.474
			20-25	4,865.758
			25-30	1,152.435
			30-35	1,847.898
			35-40	2,873.269
			> 40	180.600
TOTAL				17,523.436

5. COMPARISON OF AUDITED VOLUMES

A total of 151 lots were compared relating the length and circumference. Table 4 shows the results of the volumes obtained by the company and the volumes obtained by the audit.

Table 4 – Comparison of Volumes.

Project	Year	Area (ha)	Class of Diameter	Volume (m ³)	
				Company	Audit
SIL/K8	1995	722.1	Long	1,318.68	1,328.6
			20 - 30	340.5	340.7
			25 - 30	533.6	538.52
			25 - 33	96.3	96.86
			25 - 36	241.1	244.29
			33 - 36	48.05	48.47
			30 - 35	145.4	145.3
			36 - 39	72.19	72.6
			39 - 45	48.15	49.16
			35 - 40	555.15	557.5
			25 - 42	24.21	24.75
			> 40	124.0	123.0
> 42	24.3	24.10			
TOTAL				3,571.206	3,593.653

5.1. Statistical analysis of data

To compare and measure the lengths and circumferences of the wood logs, 151 lots were selected to verify that they are being correctly calibrated.

The Analysis of Variance and the Tukey Test were applied by class of diameter in the comparison of the volumes supplied by the company with the one audited.

Table 5 - Statistical analysis of the blocks by diameter class.

STATISTICAL ANALYSIS								
Project	Year	Field	Area (ha)	Class of Diameter	F tabled	F calculated		Coefficient of variation (%)
K8	1995	1	23.0	Long	3.90	0.3733	ns	21.60
				> 36	3.90	0.0602	ns	15.10
K8	1995	2	29.6	Long	3.88	0.0049	ns	22.42
				25-30	3.87	0.0094	ns	13.55
				25-36	3.88	0.3596	ns	11.52
K8	1995	3	37.3	Long	3.87	0.0954	ns	26.8
				25-36	3.85	0.2571	ns	19.51
				> 35	3.87	0.0788	ns	21.78
K8	1995	4	39.3	Long	3.88	0.0566	ns	23.11
				25-36	3.86	3.2489	ns	22
				30-35	3.86	0.246	ns	14.69
				35-40	3.88	1.4757	ns	6.3
				> 35	3.87	0.8289	ns	8.96
				> 38	3.9	0.0104	ns	14.46
K8	1995	5	46.6	Long	3.86	0.9362	ns	24.05
				25-30	3.85	1.1166	ns	13.11
				35-40	3.87	0.8714	ns	20.97
K8	1995	6	40.8	Long	3.87	0.0326	ns	19.92
				20-30	3.86	0.0211	ns	14.77
				25-30	3.85	0.1325	ns	13.6
K8	1995	7	31.0	25-30	3.85	3.1608	ns	13.34

K8	1995	8	6.0	25-30	3.87	1.4071	ns	13.32
K8	1995	9A	11.0	25-30	3.86	0.3484	ns	14.36
				35-40	3.86	0.0037	ns	18.95
K8	1995	9B	18.5	25-30	3.87	0.3078	ns	13.26
				35-40	3.87	0.0163	ns	17.64
K8	1995	10	22.7	Long	3.86	0.0023	ns	22.86
K8	1995	11	12.9	Long	3.88	0.1665	ns	13.73
				25-30	3.87	0.3571	ns	9.27
				20-30	3.9	0.0651	ns	18.58
K8	1995	12	13.1	Long	3.87	1.1068	ns	10.95
				25-30	3.91	0.0813	ns	14.62
				25-30	3.91	0.0105	ns	19.11
SIL	1995	2	7.5	> 25	3.87	0.8274	ns	21.74
SIL	1995	6	33.1	25-33	3.87	0.2762	ns	13.11
				36-39	3.89	1.3294	ns	5.41
				> 42	3.91	0.079	ns	15.42
SIL	1995	7	44.1	Long	3.9	2.3148	ns	21.7
SIL	1995	8	50.0	25-33	3.85	1.4592	ns	13.09
				33-36	3.86	2.4946	ns	5.86
				36-39	3.86	1.1626	ns	4.71
				39-45	3.87	1.5984	ns	14.74
				Long	3.87	3.2583	ns	24.38

SIL	1995	11	43.1	25-36	3.87	3.1333	ns	17.92
				> 35	3.87	1.6959	ns	16.38
				> 36	3.87	0.0002	ns	18.17
SIL	1995	13	13.3	20-30	3.87	0.2531	ns	12.71
SIL	1995	14	52.2	Long	3.87	0.0701	ns	20.91
				20-30	3.85	0.0106	ns	43.23
				30-35	3.86	0.0888	ns	18.86
SIL	1995	15	56.3	Long	3.85	0.0077	ns	19.52
				20-30	3.85	0.0222	ns	42.11
				25-30	3.85	1.6964	ns	7.92
				30-35	3.85	0.084	ns	25.5
				35-40	3.85	0.0169	ns	17.92
SIL	1995	16	21.4	25-42	3.87	2.6561	ns	9.34
				25-36	3.87	0.9095	ns	18.3
SIL	1995	18	19.6	Long	3.85	0.0177	ns	16.05
				> 40	3.85	0.4033	ns	17.53

As can be seen, the F value Calculated in all classes is less than the Tabulated F. Therefore, the numerical differences observed between the means of the volumes in the treatments are not statistically significant. Thus, the average of the volumes obtained by the company in the lots do not have significant differences compared to the audited one.

6. CONCLUSION

According to the items verified during the audit, it can be seen that the company Floresteca S/A is a company well-structured to control its clearcutting and harvesting processes.

After standardization work on the lots during the year 2016 of the Silas and K8 project, it was verified that the numerical differences between the means of the volumes in the treatments are not significant. Thus, it is observed that the employees of the company have been doing a good job in terms of precision in terms of measures of length, circumference and formation of lots for export.

In the classes of 15 to 25, 20 to 25, 25 to 30, 30 to 35, 35 to 40 and greater than 40 for sawing, all the waybill were analyzed and checked for validation of the total volume.

With the data obtained from the audit, in comparison with the data provided by the company, all timber collected and loaded of the year 2016 from the stands analyzed were correctly measured in volume and quality, as this audit could verify.

Cuiabá, January 16th 2017.



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ATTACHMENT I – PHOTOGRAPHIC REPORT



