



MONITORING REPORT OF PRODUCTION AND HARVESTING YEAR 2018

FREDERICO TUPINAMBÁ SIMÕES

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 Vale Dourado, Bocaina, Tenda, Silas, Cocal and Buriti 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 2018, in the Vale Dourado, Bocaina, Tenda, Silas, Cocal and Buriti 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: TRC AGROFLORESTAL LTDA
Address: Av. Castelo Branco, 272, sala 01, Bairro São Miguel, Cáceres
– MT.
CNPJ: 06.697.090/0001-06
I.E.: 13.271.007-2

2.3. Identification of the Technical Responsible

Name: Frederico Tupinambá Simões
Address: Rua Batista das Neves, 585 – Centro – Ed. TopGeo – Sala 5 –
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 5 –
Cuiabá – MT – CEP: 78.005-190
ID: 028.067.691-32
Qualification: Forester
Class Council n.º: 121263227-3
Phone: +55(65) 98116-5924
E-mail: gutolouzada@hotmail.com

2.5. Property Identification

Name: PANFLORA, ALIANÇA AND BURITI FARM
City: Rosário Oeste – MT AND Jangada -MT

Locality:

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

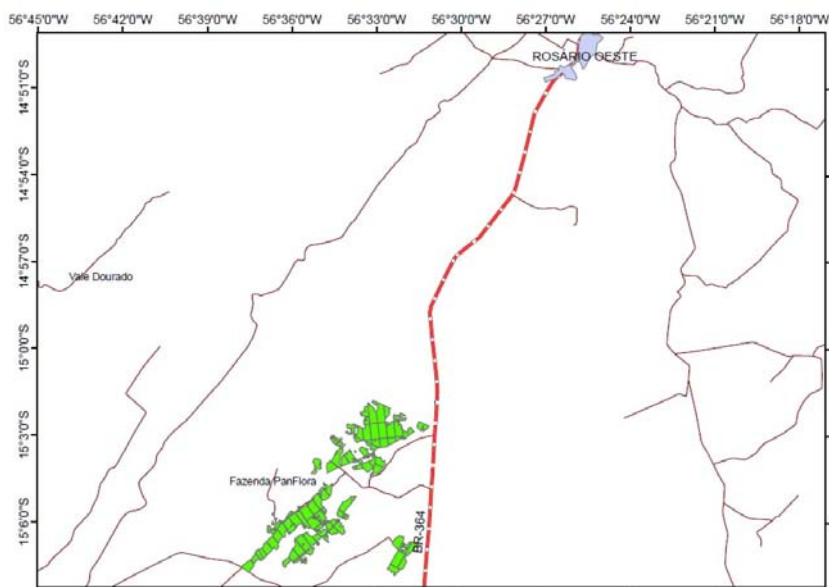


Figure 1. Location of the farm PanFlora, municipality of Rosário Oeste MT.

Locality:

The Vale Dourado and Bocaina Project area is located in the city of Rosário Oeste, on the right side of Federal Highway – BR-364, 7,0 km from Rosario Oeste in the direction of the capital Cuiabá. according to the access sketch shown in Figure 2.

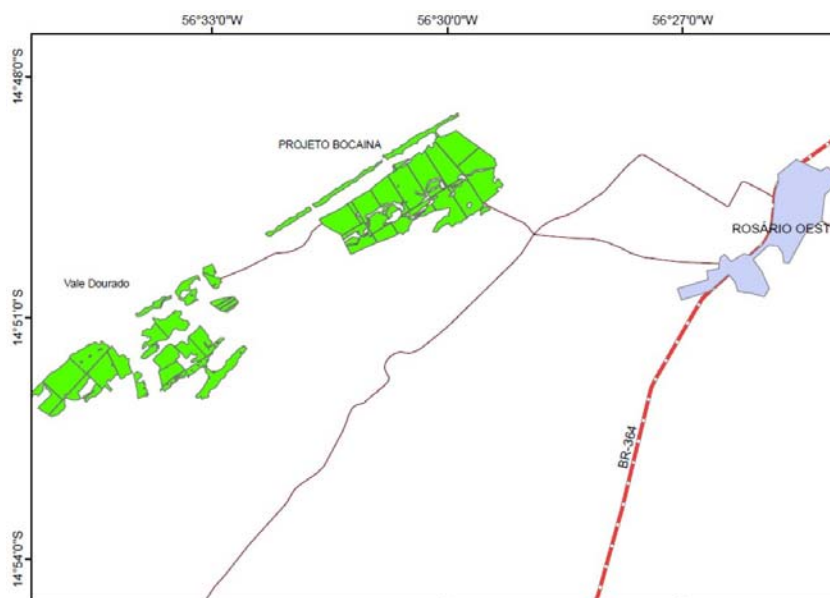


Figure 2. Location of the farm Aliança, municipality of Rosário Oeste MT.

Locality:

The Buriti Project area is located in the municipality of Jangada-MT, on the right bank of BR 364, 4 km from the municipal headquarters in the direction Jangada à Rosario Oeste, according to the access sketch shown in Figure 3.

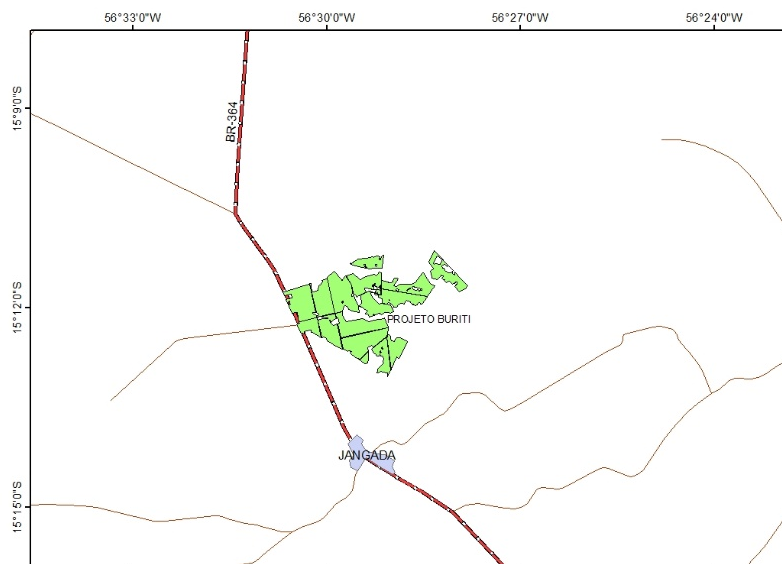


Figure 3. Location of the farm Buriti, municipality of Jangada MT.

2.6. UTM Coordinates of the Evaluated Field

Chart 1 – Central Coordinates of Evaluated Fields.

Project	Field	East (x)	North (y)	Zone
Vale dourado	1	21L 546303	8357177 UTM	21
Vale dourado	2	21L 545899	8357014 UTM	21
Vale dourado	3A	21L 545743	8356540 UTM	21
Vale dourado	3B	21L 545318	8356581 UTM	21
Vale dourado	4	21L 544882	8356082 UTM	21
Vale dourado	5	21L 545687	8357383 UTM	21
Vale dourado	6	21L 545053	8356809 UTM	21
Vale dourado	7	21L 544770	8356300 UTM	21
Vale dourado	10A	21L 548369	8359327 UTM	21
Vale dourado	10B	21L 548431	8359088 UTM	21
Vale dourado	11	21L 547780	8358942 UTM	21
Vale dourado	12A	21L 547377	8358641 UTM	21

Vale dourado	12B	21L 547377	8358519 UTM	21
Vale dourado	13	21L 547496	8358047 UTM	21
Vale dourado	14	21L 547386	8357325 UTM	21
Vale dourado	15	21L 548092	8357539 UTM	21
Vale dourado	16A	21L 548705	8358549 UTM	21
Vale dourado	16B	21L 548848	8358427 UTM	21
Vale dourado	17	21L 546780	8356625 UTM	21
Tenda	1	21L 549500	8327563 UTM	21
Tenda	2	21L 550227	8328685 UTM	21
Tenda	3	21L 550661	8328906 UTM	21
Tenda	4	21L 549759	8328258 UTM	21
Tenda	5	21L 550102	8327985 UTM	21
Tenda	6	21L 549500	8327563 UTM	21
Silas	19	21L 551281	8336774 UTM	21
Cocal	1,2B,3,4,5,6,7,8,9, 10A, 10B, 11A, 11C, 12A, 12B, 13,14,15, 16A e 16B	21L 547087	8334323 UTM	21
Bocaina	3	21L 553949	8360725 UTM	21
Bocaina	5	21L 553170	8360687 UTM	21
Bocaina	7	21L 552345	8360145 UTM	21
Bocaina	9A	21L 551861	8359939 UTM	21
Bocaina	9B	21L 551614	8359970 UTM	21
Bocaina	9C	21L 551821	8360280 UTM	21
Bocaina	11	21L 551508	8360504 UTM	21

2.7. Lots Evaluated

Chart 2 - Lots evaluated at 2018.

Project	Field	Area (ha)	Number of lots evaluated
Vale dourado	1	19,30	74, 94 e 95
Vale dourado	2	30,80	491, 492, 493, 494 e 507
Vale dourado	3A	6,60	1196
Vale dourado	3B	11,5	522, 524 e 539
Vale dourado	4	6,0	434
Vale dourado	5	33,1	823, 824, 828 e 832
Vale dourado	6	45,59	1193, 1201 e 1202
Vale dourado	7	21,10	1498
Vale dourado	10A	5,00	-
Vale dourado	10B	7,00	1758
Vale dourado	11	16,3	184, 189, 190 e 191
Vale dourado	12A	1,22	-
Vale dourado	12B	7,25	-
Vale dourado	13	45,40	1679, 1681, 1682, 1683, 1684, 1700, 1701, 1710 e 1711.
Vale dourado	14	35,70	573, 578, 580, 582, 838, 839, 840, 841, 842, 851 e 858.
Vale dourado	15	37,40	1075, 1077, 1079, 1080 e 1085
Vale dourado	16A	10,96	1291, 1292 e 1294.
Vale dourado	16B	1,25	1297.
Vale dourado	17	10,10	440.
Tenda	1	37,10	287, 288, 303 e 305
Tenda	2	24,74	343, 344 e 355
Tenda	3	28,20	940 e 941
Tenda	4	50,20	959 e 962
Tenda	5	25,60	942 e 955
Tenda	6	25,57	251, 268 e 273
Silas	19	24,4,0	233 e 245

Cocal	1,2B,3,4,5,6,7,8,9, 10A, 10B, 11A, 11C, 12A, 12B, 13,14,15, 16A e 16B	356,7	-
Bocaina	3	37,85	1774, 1778, 1787 e 1788
Bocaina	5	24,03	1698, 1702, 1711, 1712 e 1713
Bocaina	7	13,7	1624, 1625, 1626 e 1627
Bocaina	9A	14,38	1545, 1546, 1555 e 1568.
Bocaina	9B	3,85	1522 e 1524
Bocaina	9C	8,09	1453, 1454, 1483 e 1486
Bocaina	11	40,1	1328, 1336, 1337, 1338, 1339 e 1340
Bocaina	13	20,03	1981, 1982, 1983 e 1984
Bocaina	14	14,88	1906, 1907, 1908, 1915 e 1924
Bocaina	15	10,22	1850, 1852 e 1855
Buriti	3	59,65	1655, 1656 e 1657
Buriti	4	19,81	2267 e 2319
Buriti	9B	4,76	-
Buriti	10	25,7	-

3. METHODOLOGY

COLLECTION OF DATA

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

Planning:

In 2018, 60 blocks were audited, of which 19 are from the Vale Dourado project, 6 from the Tenda project, 1 from the Silas project, 20 from the Cocal project, 10 from the Bocaina project and 4 from the Buriti project.

Number of parcel:

We randomly selected 120 lots to represent the fields throughout the year 2018.

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 Vale Dourado, Tenda, Silas, Cocal, Bocaina and Buriti project.

Measurements:

A total of 120 plots were measured for the plots throughout the year 2018, with a total of 8,758.00 wood logs. (Photos Annex I).

Table 1 - Number of lots and number of logs.

Class	Nº of Lots	Nº of Logs
Semi-Long(20-30)	12	2,355
LONG(20-25)	72	1,264
LONG(25-30)	19	3,022
25-30	6	1,085
30-35	3	332
35-40	6	538
> 40	2	162
TOTAL	120	8,758.00

2.8. DATES OF VISITS

Dates for indicative technical visits to reports delivered in 2018.

	2018
January	3 and 23
February	6 and 21
March	02, 13, 16, 19 and 28
April	03, 16 and 18
May	15, 24 and 25
June	05 and 21
July	03, 19, 24 and 30
August	09, 10, 21 and 30
September	13 and 25
October	09 and 31

4. PRODUCTIVITY EVALUATION

3.1. Harvest Data per Diameter Class

In Table 2, the results of the volumes loaded by diameter class for the fields audited in the year 2018 of the project projeto Vale Dourado, Tenda, Silas, Cocal, Bocaina and Buriti, where the diameter class of 25 to 30 centimeters was obtained a larger volume loaded, followed by the classes 35 to 40, 20 to 30, 20 to 25, 30 to 35 and greater than 40 centimeters in diameter, totalizing a volume of **45,194.43** cubic meters of exported wood.

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

EXPORT				
Project	Year	Area (ha)	Diameter class	Volume (m³)
Vdo/Boc/Cocal Ten/Sil/Buriti	1995/1997	1,221.13	20-30	7,393.42
			20-25	5,426.95
			25-30	18,097.64
			30-35	3,835.30
			35-40	8,467.71
			>40	1,973.41
TOTAL				45.194,43

For sawmills, ten diameters classes were obtained, totaling the volume of **13,895.45** cubic meters.

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

SAWMILLS				
Project	Year	Area (ha)	Diameter Class	Volume (m³)
Vdo/Boc/Cocal Ten/Sil/Buriti	1995/1997	1,221.13	15-20	417.56
			15-25	2,584.35
			16-18	268.09
			16-20	52.62
			18-20	3,729.53
			20-23	628.14
			20-25	860.51
			25-30	2,428.21
			30-35	2,878.04
			35-40	48.40
TOTAL				13,895.45

5. COMPARISON OF AUDITED VOLUMES

A total of 120 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 (m³)	
				Company	Audit
Vdo/Boc/Cocal Ten/Sil/Buriti	1995/1997	1,221.13	Semi-Long (20-30)	458.055	460.193
			Long (20-25)	292.491	294.323
			Long (25-30)	1,747.52	1,754.873
			25-30	145.454	144.146
			30-35	72.504	72.417
			35-40	146.166	146.374
			> 40	48.725	48.916
TOTAL				2,910.915	2,921.242

4.1. Statistical analysis of data

To compare and measure the lengths and circumferences of the wood logs, 120 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 (%)
VDO	1995	1	19,3	Long	3,87	0,6086	ns	17,43
VDO	1995	4	6	Long	3,87	0,7617	ns	17,96
VDO	1995	10B	7	Long	3,87	0,193	ns	15,67
VDO	1995	11	16,3	Long	3,86	0,0187	ns	18,43
				30-35	3,87	0,1981	ns	7,57
VDO	1995	13	45,4	Long	3,85	0,0012	ns	17,26
VDO	1995	2	30,8	Long (20-25)	3,87	0,3147	ns	18,77
				35-40	3,89	0,0064	ns	18,41
VDO	1995	5	33,1	Long (20-25)	3,87	0,6778	ns	22,23
				Semi Long (20-30)	3,86	0,03	ns	18,31
VDO	1995	14	35,7	Long (25-30)	3,85	0,5561	ns	18,71
				35-40	3,9	0,019	ns	17,15
VDO	1995	3A	6,6	Semi Long (20-30)	3,88	0,0118	ns	15,56
VDO	1995	3B	11,5	Long (25-30)	3,89	0,0488	ns	19,16
				30-35	3,88	0,1299	ns	7,55
VDO	1995	6	45,59	Long (20-25)	3,87	0,9643	ns	16,34
				Long (25-30)	3,86	0,0091	ns	18,46
VDO	1995	7	21,1	Long (20-25)	3,9	0,0307	ns	18,13
VDO	1995	15	37,4	Long (25-30)	3,86	0,2049	ns	18,34
				35-40	3,89	0,0106	ns	20,82
VDO	1995	16A	10,96	Long (25-30)	3,87	0,0659	ns	18,39
VDO	1995	16B	10,96	Long (25-30)	3,93	0,011	ns	18,89
VDO	1995	17	10,96	Long (25-30)	3,94	0,0205	ns	15,8
VDO	1995	09A	14,38	Long (25-30)	3,87	0,0501	ns	16,84
				35-40	3,9	0,0483	ns	22,1
VDO	1995	09B	3,85	Long (25-30)	3,89	0,3292	ns	16,82

VDO	1995	09C	8,09	Long (20-25)	3,91	0,6085	ns	15,93
				Long (25-30)	3,89	0,0472	ns	17,4
				> 40	3,9	0,0382	ns	14,01
Tenda	1997	1	37,1	20-30	3,85	0,8711	ns	12,69
				25-30	3,87	0,5553	ns	12,02
Tenda	1997	2	24,7	20-30	3,86	0,9933	ns	13,49
				25-30	3,87	0,3208	ns	24,02
Tenda	1997	6	25,5	20-30	3,86	0,1783	ns	21,93
				25-30	3,87	3,3228	ns	12,54
Tenda	1997	3	28,2	Semi long (20-30)	3,87	0,0203	ns	9,22
				25-30	3,87	0,164	ns	18,25
Tenda	1997	4	50,2	Semi long (20-30)	3,87	0,1837	ns	9,51
				25-30	3,87	0,0678	ns	17,7
Tenda	1997	5	25,6	Semi long (20-30)	3,87	0,0394	ns	8,34
				25-30	3,87	0,001	ns	21,33
BOC	1998	7	13,7	Long (25-30)	3,87	1,0565	ns	16,49
BOC	1998	11	40,1	Long (25-30)	3,87	0,0649	ns	19,77
				35-40	3,9	0,006	ns	19,31
				> 40	3,9	0,0201	ns	18,56
BOC	1998	3	37,85	Long(20-25)	3,86	0,00409	ns	18,78
				Long(25-30)	3,93	0,0562	ns	13,9
BOC	1988	5	24,03	Long (20-25)	3,91	0,0591	ns	14,8
				Long (20-25)	3,87	0,002	ns	17,19
				35-40	3,89	0,0047	ns	19
BOC	1998	13	20,03	Long (25-30)	3,86	0,708	ns	15,29
BOC	1988	14	14,88	Long (20-25)	3,88	0,3011	ns	18,01
				Long (25-30)	3,87	0,0557	ns	13,97
BOC	1988	15	10,22	Long (20-25)	3,94	0,0047	ns	15,7
				Long (25-30)	3,89	0,0859	ns	14,63
BUR	1995	3	59,65	Semi Long (20-30)	3,85	0,1732	ns	11,29
BUR	1995	4	19,81	Semi Long (20-30)	3,86	2,966	ns	14,2
Silas	1995	19	24,4	20-30	3,87	0,0265	ns	12,97
				30-35	3,87	0,0064	ns	23,57

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 TRC Agroflorestal LTDA is a company well-structured to control its clearcutting and harvesting processes.

After standardization work on the lots during the year 2018 of the projeto Vale Dourado, Tenda, Silas, Cocal, Bocaina and Buriti 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 destined 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 2018 from the stands analyzed were correctly measured in volume and quality, as this audit could verify.

Cuiabá, January 21th 2019.



FREDERICO TUPINAMBÁ SIMÕES

CREA: MT-024685
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ATTACHMENT I – PHOTOGRAPHIC REPORT

