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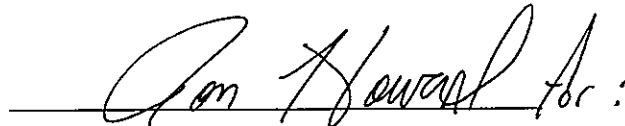
**Work Order No. 06598-011-001**

MAY 06 1998

TEMPLE-INLAND FOREST PRODUCTS CORPORATION

**Lumber Kiln Emission Testing  
Diboll and Buna, Texas  
Temple-Inland Forest Products Corporation  
Diboll, Texas  
January 1998**

Prepared For  
**TEMPLE-INLAND FOREST PRODUCTS CORPORATION**  
215 North Temple Drive  
Diboll, Texas 75941



Bruce Ferguson  
Approved for Transmittal

Prepared By  
**ROY F. WESTON, INC.**  
1635 Pumphrey Ave.  
Auburn, Alabama 36832-4303

**1 April 1998**

Roy F. Weston, Inc. (WESTON®) was retained by Temple-Inland Forest Products Corporation (Temple-Inland) to conduct emission testing on a lumber-drying kiln at the saw mill in Diboll, Texas and one at the saw mill in Buna, Texas. The purpose of the testing was to measure the VOC, methanol, and formaldehyde emission rates (and calculate emission factors for these compounds) during the lumber drying cycle. The testing was performed using the water mass balance (WMB) approach as described in the Test Plan copied in Appendix A. The plan was reviewed by Dr. David Word of the Southern Regional NCASI office in Gainesville, Florida, prior to implementation. A carbon balance calculation was also performed on the direct-fired kiln in Buna.

Table 1-1 summarizes the results from both mills. Emission factors throughout this report are based on nominal lumber dimensions. That is, assuming full thickness and width of the lumber. All 2X material is actually 1.75" thick (instead of 2"). The nominal width is almost exactly the actual lumber width.

**TABLE 1-1**  
**SUMMARY OF EMISSION RESULTS**

	Diboll	Buna
<b>Total Hydrocarbon Emission Factor, lb as C/Mbf<sup>a</sup></b>	1.88	2.49
<b>Methanol Emission Factor, lb/Mbf<sup>a</sup></b>	0.26	----
<b>Formaldehyde Emission Factor, lb/Mbf<sup>a</sup></b>	0.025	----
<b>Lumber Moisture Loss, kg/bf</b>	0.95	0.76

<sup>a</sup>Mbf - thousand board feet (nominal dimensions)

Sections 2 and 3 describe the results for the Diboll and Buna mills, respectively. Calculations, field data, and laboratory data are presented in appendices to support the results. The gas moisture, methanol, and formaldehyde data from the Buna Mill were inconsistent and determined to be invalid. Section 3 more fully explains the problematic nature of these data.

Mr. G. Wayne Hardy of Temple-Inland coordinated the testing with mill operations and served as WESTON's technical contact throughout the effort. The WESTON project team was led by the following individuals.