INTRODUCTION

Wolf Steel Ltd. retained *OMNI* to perform U.S. Environmental Protection Agency (EPA) certification testing on the 2200 wood stove. The 2200 wood stove is a non-catalytic, freestanding, radiant-type room heater. The firebox is constructed of mild steel. Usable firebox volume was measured to be 1.9 cubic feet and the stove is vented through a 6-inch diameter flue collar located at the top of the unit.

The testing was performed at *OMNI*'s testing facility in Portland, Oregon. The altitude of the laboratory is 30 feet above sea level. The unit was received in good condition and logged in on November 10, 2008, then assigned and labeled with *OMNI* ID #1319. *OMNI* representative Ken Morgan conducted the certification testing and completed all testing by March 12, 2009. The EPA was notified of the testing dates in a letter dated March 6, 2009. A testing contract, including provisions for Random Compliance Audit (RCA) testing, has been signed by John Kennedy of Wolf Steel Ltd. and is on file at *OMNI*'s testing facility.

The 2200 wood stove was tested in accordance with the U.S. EPA 40 CFR Part 60, Subpart AAA – Standard of Performance for Residential Wood Heaters (Appendix A, Methods 28 and 5G). Particulate emissions were measured using a Method 5G sampling train consisting of two filters (front and back). The weighted average emissions of the four test runs included in the results indicate a particulate emission level of 3.6 grams per hour. Run #5, a fan confirmation test run, was performed and was not used in the weighted average emission results. Test runs were conducted in each of three burn rate categories (0.80-1.25 kg/hr, 1.25-1.90 kg/hr, and maximum). Emissions for each of their individual test runs did not exceed the cap. The 2200 results are within the emission limit of 7.5 grams per hour for non-catalytic affected facilities manufactured on or after July 1, 1990, or sold at retail on or after July 1, 1992.

The wood heater was sealed after completion of testing in compliance with the EPA regulation as follows:

- "DO NOT TAMPER" labels were placed on the door and on all other openings.
- Plastic material sealed with "DO NOT TAMPER" labels and tape was wrapped around the unit.
- The unit was sealed in a wood box constructed for the unit and secured with steel banding.
- "DO NOT TAMPER" labels were placed on all outer surfaces of the box.

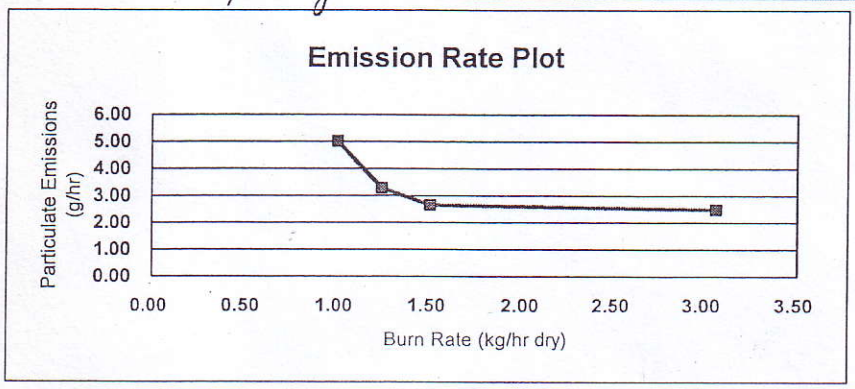
This report is organized in accordance with the EPA-recommended outline and is summarized in the Table of Contents immediately preceding this report. The results in this report are limited to the item submitted.

EPA Weighted Average Emissions
EPA Method 28

Client: Wolf Steel
Stove Model: Napoleon 2200
Test Dates: 3/06/09 - 3/12/09
Project Number: 415-S-02-3
Tracking Number: 1319
Signature/Date: K. Morgan 3-18-09

Status: FINAL
Stove Type: Non-Catalytic Stove

Weighted Average (g/hr)
3.6



Run #	1	
Burn Rate (dry kg/hr)	1.00	
Catagory	2	
Overall Efficiency (%)	63%	
Emissions (g/hr)	5.01	
Cap (g/hr)	15	
Weighting Factor	0.568	35.36%
Heat Output (BTU/hr)	12084	

Run #	2	
Burn Rate (dry kg/hr)	1.24	
Catagory	2	
Overall Efficiency (%)	63%	
Emissions (g/hr)	3.28	
Cap (g/hr)	15	
Weighting Factor	0.370	23.05%
Heat Output (BTU/hr)	14984	

Run #	4	
Burn Rate (dry kg/hr)	1.50	
Catagory	3	
Overall Efficiency (%)	63%	
Emissions (g/hr)	2.66	
Cap (g/hr)	15	
Weighting Factor	0.418	26.02%
Heat Output (BTU/hr)	18125	

Run #	3	
Burn Rate (dry kg/hr)	3.06	
Catagory	4	
Overall Efficiency (%)	63%	
Emissions (g/hr)	2.49	
Cap (g/hr)	18	
Weighting Factor	0.250	15.57%
Heat Output (BTU/hr)	36976	

TEST RESULTS AND DISCUSSION

A total of five test runs were performed on the 2200 wood stove. Four test runs were conducted in the following categories and included in the weighted average emission level results: two in the 0.80 to 1.25 kg/hr dry category; one in the 1.25 to 1.90 kg/hr dry category; and one at maximum.

The weighted particulate emission level was measured to be **3.6 g/hr**.

The proportionality results for all five test runs were acceptable. Quality check results for each test run are presented in Section 2 of this report.