

## CALIFORNIA SCIENCE & ENGINEERING FAIR 2018 PROJECT SUMMARY

Name(s)	Project Number
Michael P. Bedrosian	
Project Title	38295
Comparing the Compression Strength of Reclaimed Wood Structures to New Wood Structures	
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Objectives/Goals Abstract	
The objective of this study is comparing the compression strength of reclaimed wood structures. My goal is to prove that reclaimed wood structures will be structures. Also with an emphasis on recyclability of reclaimed wood as a build	nger than new wood
Methods/Materials	There down Develop for
Purchased reclaimed Douglas fir and Redwood from Crossroads/Lumber Co. Re and Redwood from Holt Lumber. Holt lumber fabricated all wood plants to sp for each wood type were made. Planks nailed together by National Raisin Co.Fe rectangular open ends box. Seven boxes of each wood type were made. Box me 3 1/2 " wide, 5/8"thick. The boxes were tested in a Universal Compression Mac Engineering Dept. Structure placed in compression machine until broken. Comp	orman, to form a easurements were 7" long. hine at Fresno State Univ.
for each wood type. PSI calculated, and compression wood evenue results char	ted.
<b>Results</b> The results of my investigation shows that reclained wood structures are strong Douglas fir compression strength average was 567 PST vs. 464 DSI to new. An difference in reclaimed Douglas Fir to new. Reclaimed Red wood compression st PSI vs. 289.9 PSI to new. An 16% compression strength difference in reclaimed results further prove that my hypothesis is correct that reclaimed structures are s gives builders a recyclable option to use reclaimed wood. <b>Conclusions/Discussion</b>	18% compression strength strength average was 345.5 d Redwood to new. The stronger than new. This
I found that my hypothesis is correct that reclaimed wood structures are stronge Douglas fir structures were 18% stronger than new which was very significant. structures were 16% stronger than new which was very significant as well. Con proved to be stronger in both wood types. Reclaimed wood can be used more for strength and appearance. Only 5% of reclaimed wood is used, rest goes to land this precious resource better!	or building projects for its
Summary Statement Compression testing of reclaimed wood structures proved to be stronger than new was very significant and a viable building option.	ew wood structures which
Help Received	
Dr. Kimberly Stillmaker, Assistant Professor Civil Engineering Department, Ca Fresno; Mr. Mar Mandel Owner, Crossroads Recycled Lumber Company, North Lumber Supervisor, Holt Lumber Company, Fresno; Mr. Frank Reyna Yard For	h Fork; Mr. Santos Garcia