



Raymond Baltar
Biochar Projects Manager
Sonoma Ecology Center
Director / SBI



Biochar in the Woods Webinar / Permitting & Insurance
SEC/SLOAPCD/CAPCOA Emissions Testing Proposal
January 27, 2022

SEC/SBI Biochar Project Highlights

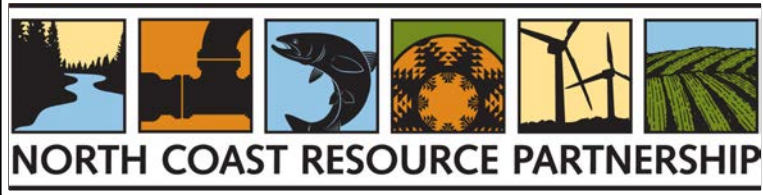
- 2019 Assisted Sonoma County forester Dan Falk in purchase of a Tigercat Carbonator
- 2020 Received North Coast Resource Partnership grant to purchase 5 Ring of Fire Kilns and work with RFFI and Potter Valley Tribe on their use in forest environments
- 2020-Current Consulting with Mendocino County RCD on Biomass Energy Project
- 2020-Current. Working with CAPCOA, SLOAPCD, and Forest Service Fire Science Lab on kiln emissions proposal
- 2021-Current Received Cal Fire Urban Forestry grant to purchase Biochar Pyrolysis processor from ARTi to divert landfilled wood chips and convert into biochar. Partner: A Plus Tree
- 2021 Concluded 4-year DWR Biochar Vineyard Field Trial with excellent science
- 2022 Working with San Bernardino Valley Water District to provide biochar and Ring of Fire kiln training to crews working in their watershed.

Conservation Burn/Ag 40 Trainings since 2013



Conservation Burn/Forestry





**Usal Redwood Forest Company
Redwood Forest Foundation
The Potter Valley Tribe**



**2019
THE COUNTY OF HUMBOLDT
REGIONAL FOREST AND FIRE CAPACITY
SUB-GRANT
FOR THE PROJECT ENTITLED:
USE OF PORTABLE FIELD KILNS TO
PROCESS BIOMASS AND MAKE BIOCHAR**

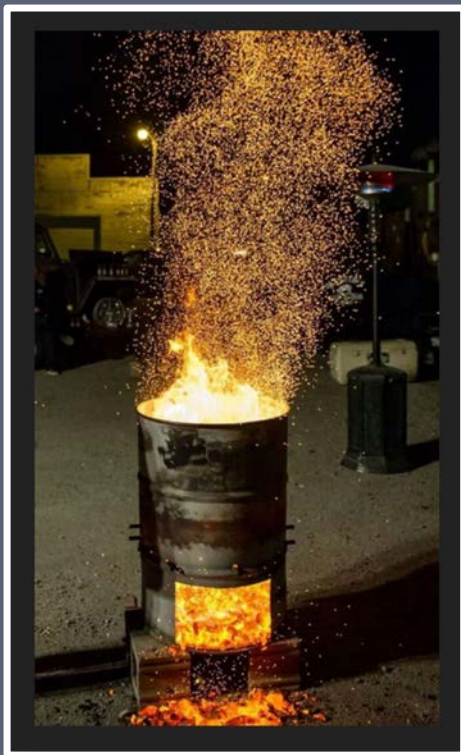


Ring of Fire Flame Cap Kilns



Resistance to Permitting

Burn Barrels, Illegal in California



CAPCOA Emissions Testing Proposal

Draft Proposal to Quantify Life Cycle GHG & Criteria Pollutant Reductions and Carbon Sequestration Potential from Low Emissions Agricultural Burn Techniques Relative to Traditional Open Burning



Center for
**Sustaining Agriculture
& Natural Resources**

WASHINGTON STATE UNIVERSITY

CAPCOA Emissions Testing Proposal

OPTION 1

10 Days Field Testing, 19 Replicates

5 Days Lab Testing, 9 Replicates

OPTION 2

10 Days Field Testing, 19 Replicates

10 days Lab Testing 18 Replicates (2 moisture levels)



CAPCOA Emissions Testing Proposal

- Measure Carbon/Moisture Content of Vines
- Consistent Weight and Volume of All Pile Replicates
- Measuring GHG, Criteria Pollutants & Particulate Emissions from Conservation Burns, Kilns & Control
- Quantity and Quality Analysis of Biochar Produced
- Life Cycle Analysis of These Burns vs Many Alternate Fates of the Material—Jim Amonette.

CAPCOA Emissions Testing Proposal



USFS Missoula Fire Lab's Combustion Chamber floor and sampling hood that will be used for this study's emissions testing in the laboratory.



Missoula Fire Lab and Sonoma Ecology Center will do field tests using a similar emissions test process (shown above: field testing at CALFIRE Alta Forestry & Fire Protection Station, CA).¹

BAAQMD Kiln Ruling

Hi Raymond,

The operation of these portable kilns is subject to the requirements of [Regulation 5](#), Open Burning, and exempt from permitting requirements per the exclusion in [Regulation 1-110.5](#). The fire would have to be set for a purpose that is allowable in Regulation 5-501 and meet all applicable requirements.

If you have any questions about open burns and/or Regulation 5, please contact Patrick Wenzinger (pwenzinger@baaqmd.gov) from the Air District's Compliance and Enforcement Division.

Thanks,

Danny Nip, P.E. | Air Quality Engineer

Bay Area Air Quality Management District

Engineering Division

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San Francisco, CA 94105

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South Coast AQMD Kiln Ruling

Good afternoon Raymond,

Thanks for meeting with us this afternoon. As we discussed, the South Coast AQMD's position is that this type of unit, Ring of Fire Kilns, does not require a traditional type of permit and will be covered under Rule 444, Open Burning. When issuing smoke or burn plans under the rule, or authorizing other types of burning where fuel reduction or other permissible burning may occur using these devices, their operation will be included in the permission to burn pursuant to Rule 444 requirements.

We look forward to seeing the upcoming demonstration, and appreciate the efforts that the Sonoma Ecology Center is achieving with respect to the Sonoma Biochar Initiative.

Regards,

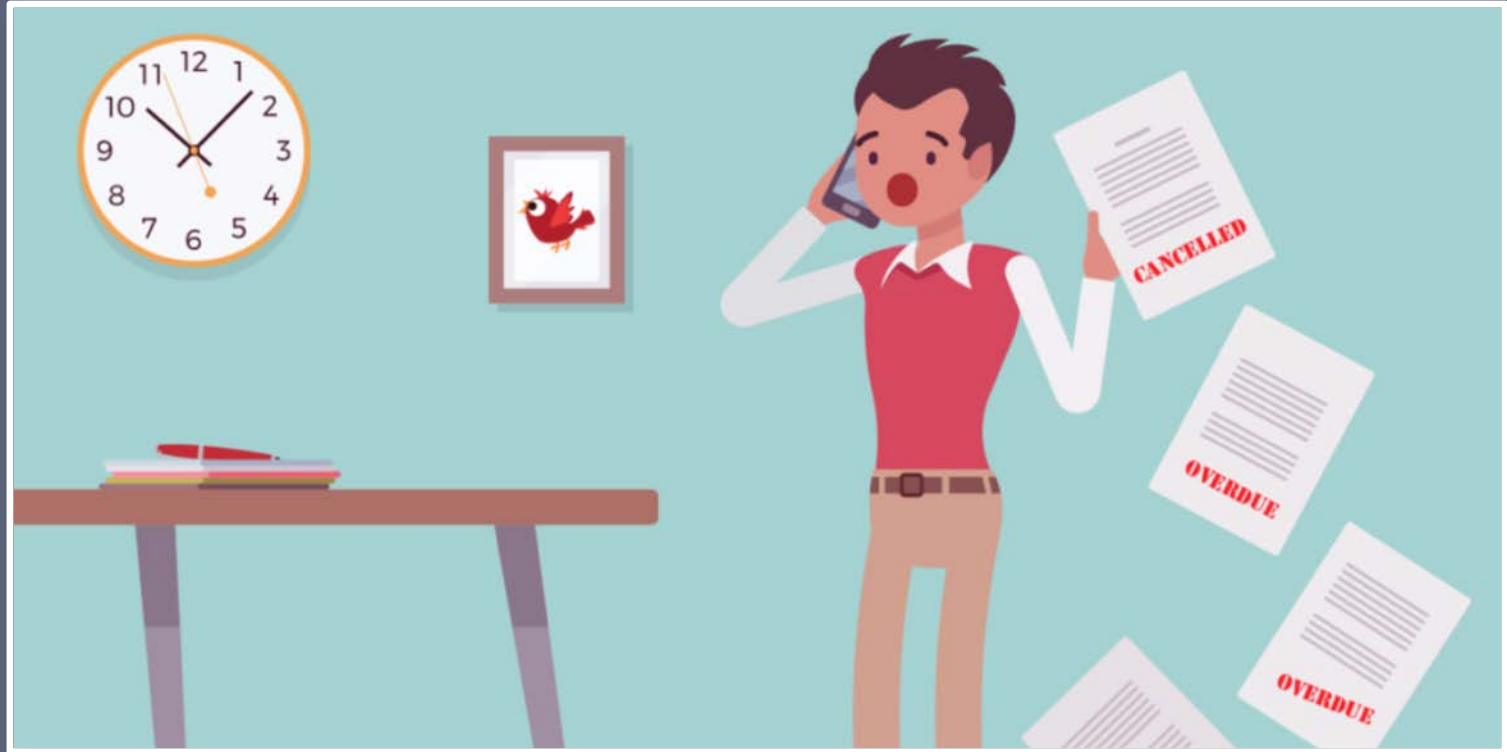
David De Boer

Senior Enforcement Manager

Compliance & Enforcement

Phone: (909) 396-2329

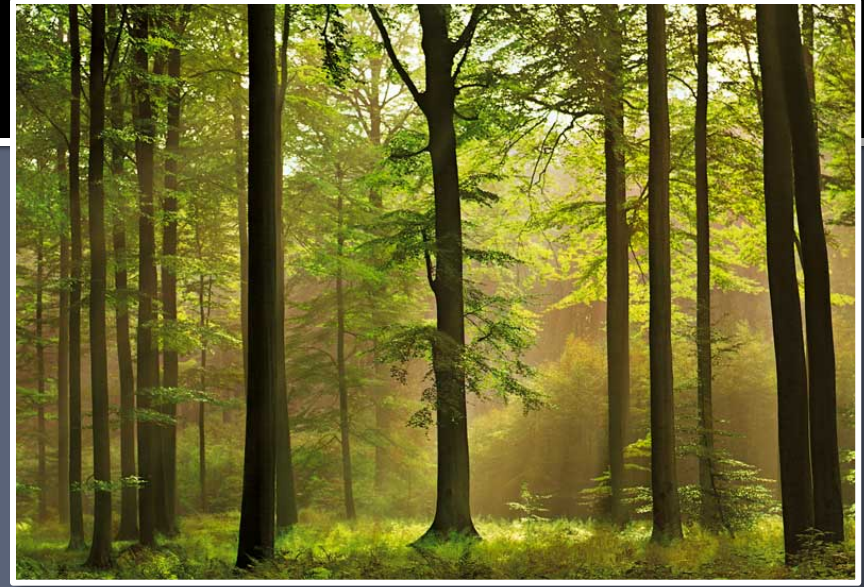
Insurance Issues



Sonoma Biochar



Growing Healthy Soils
Redirecting Carbon



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