

UTAH BIOMASS RESOURCES GROUP



UtahState University
COOPERATIVE EXTENSION

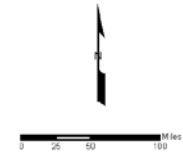
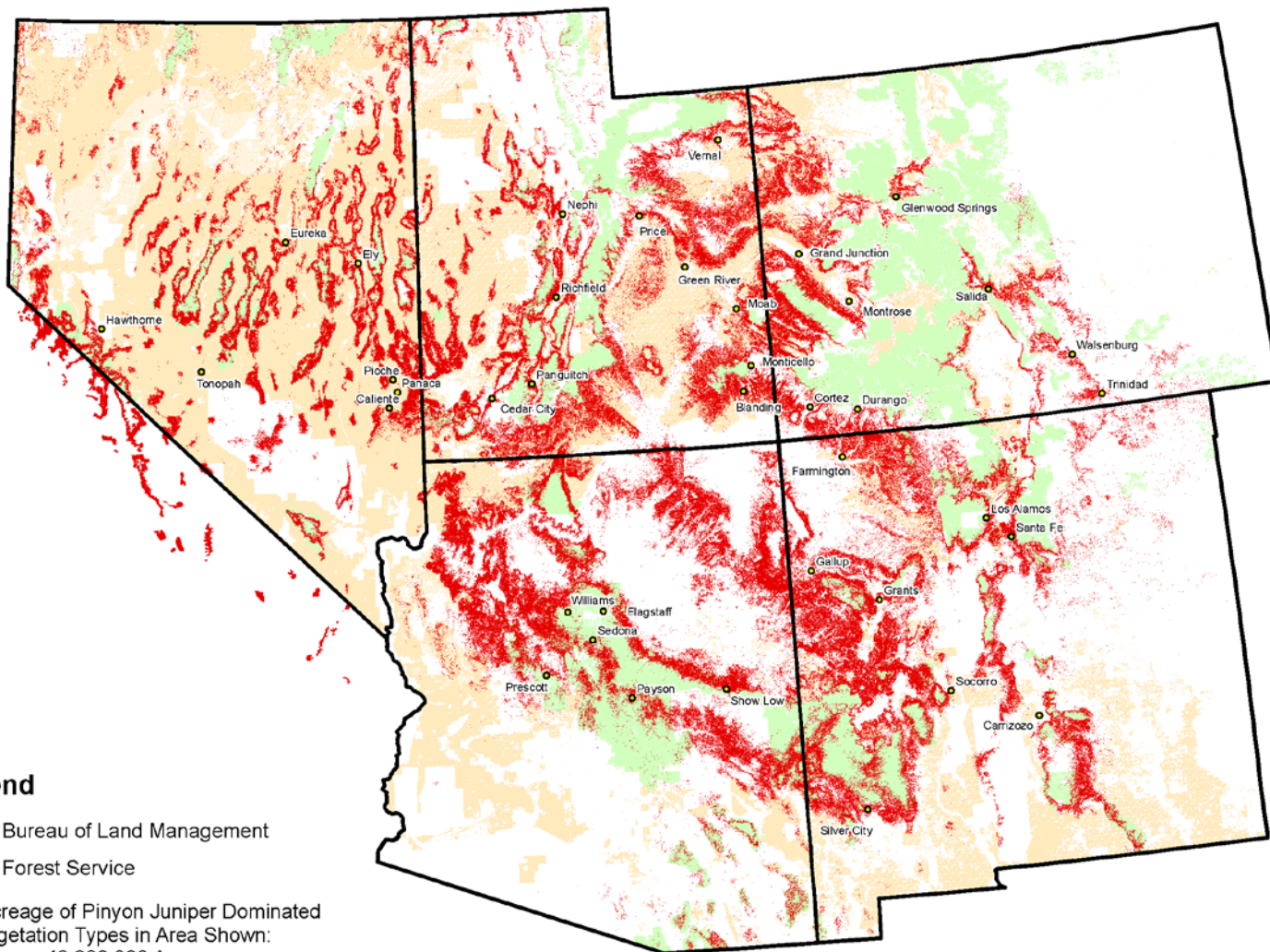
Amaron Energy



Overview

- Pinyon Juniper
- Gasification
- Mobile Pyrolysis
- Lessons Learned
- Bio-oil
- Biochar
- Biochar Agriculture and Reclamation Studies
- ICLT Wood Innovation Grant





Legend

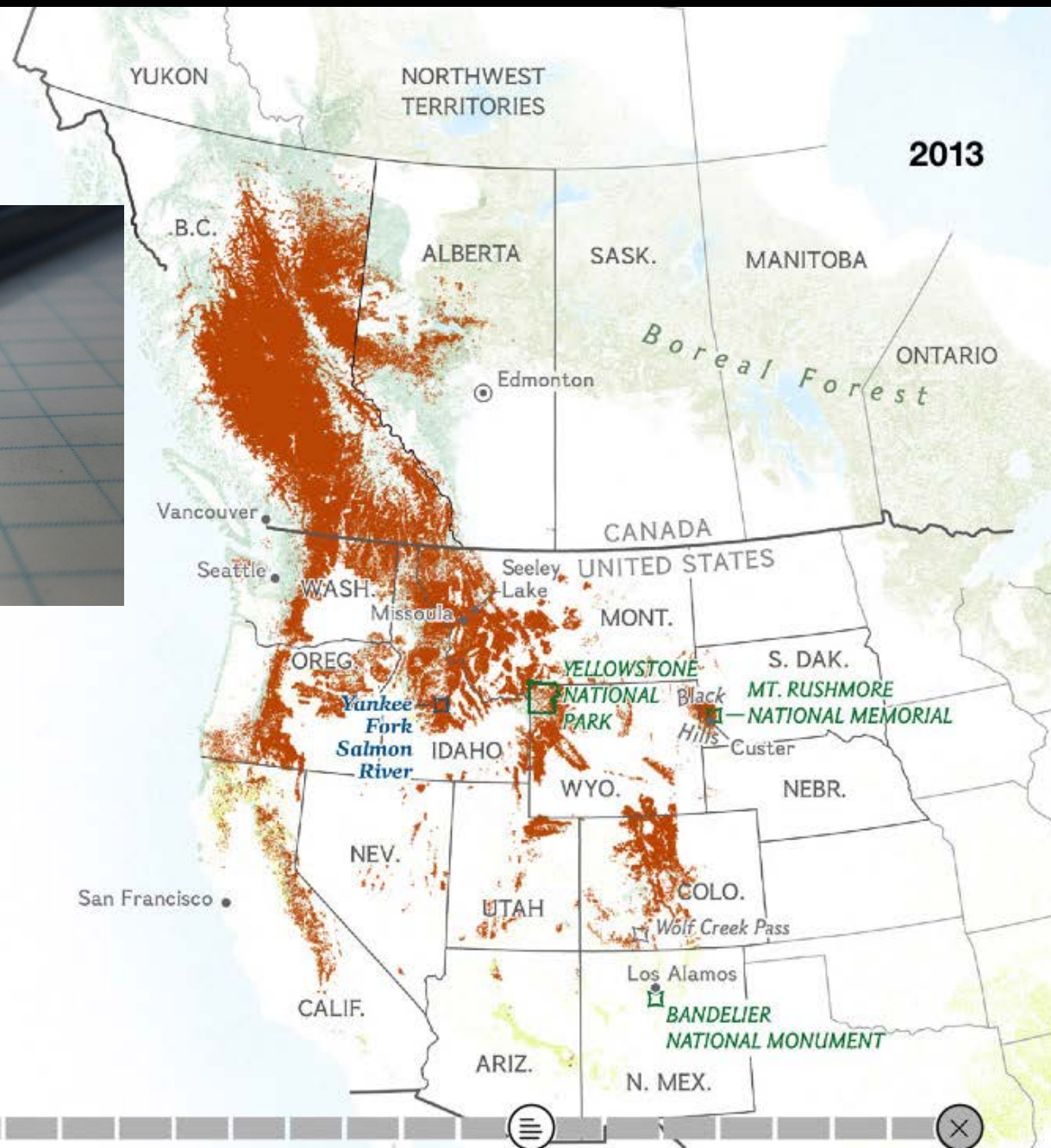
- Bureau of Land Management
- Forest Service

Total Acreage of Pinyon Juniper Dominated
Vegetation Types in Area Shown:
49,880,000 Acres

Pinyon-Juniper
Distribution of
Vegetation Types
in the
Southwestern States

Data Source: SW Re-GAP Landcover Data, 2004, CA GAP Landcover Data, 1993





THE BEETLE AND ITS HOSTS

- Mountain pine beetle occurrence
- Lodgepole pine range
- Jack pine range
- Other pine species





MOBILE GASIFICATION UNIT

DRAGON WAGON

MAKING ELECTRICITY FROM WOOD

biomassresources.org

Utah State University
UTS
UTAH BIOMASS RESOURCES GROUP
CENTER FOR AGRONOMIC & WOODY BIOFUELS

DRAGON WAGON

WOODS ENERGY

CARBON-NEGATIVE

WOODS ENERGY

MAKING ELECTRICITY FROM WOOD

KINGSFORD
MESQUITE

READY-MADE
WOOD CHIPS

WOODS ENERGY











Wood Fuel
BIOMASS
GENERAC

NO SMOKING PROPANE

ELK CAMP GONDOLA



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Truck Rental
Commercial & Business Rental
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Wood to Fuel
A sustainable energy solution
Wood chips are processed into a fuel that can be used in a variety of ways.
The process is simple and efficient, and it's a great way to reduce your carbon footprint.







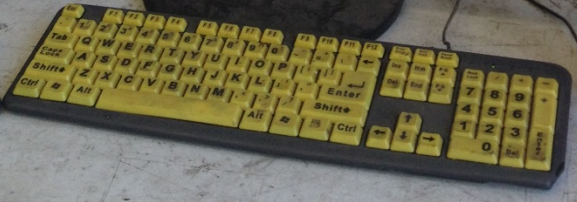
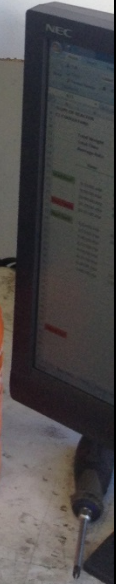
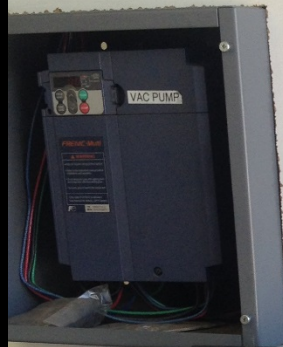
BURNER AIR



C1 VACUUM



KILN VACUUM











PUP

770-8842
H&H

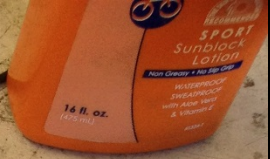


















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Pop-ZSM5-5060MS-180mm
NOM 30 April 2013



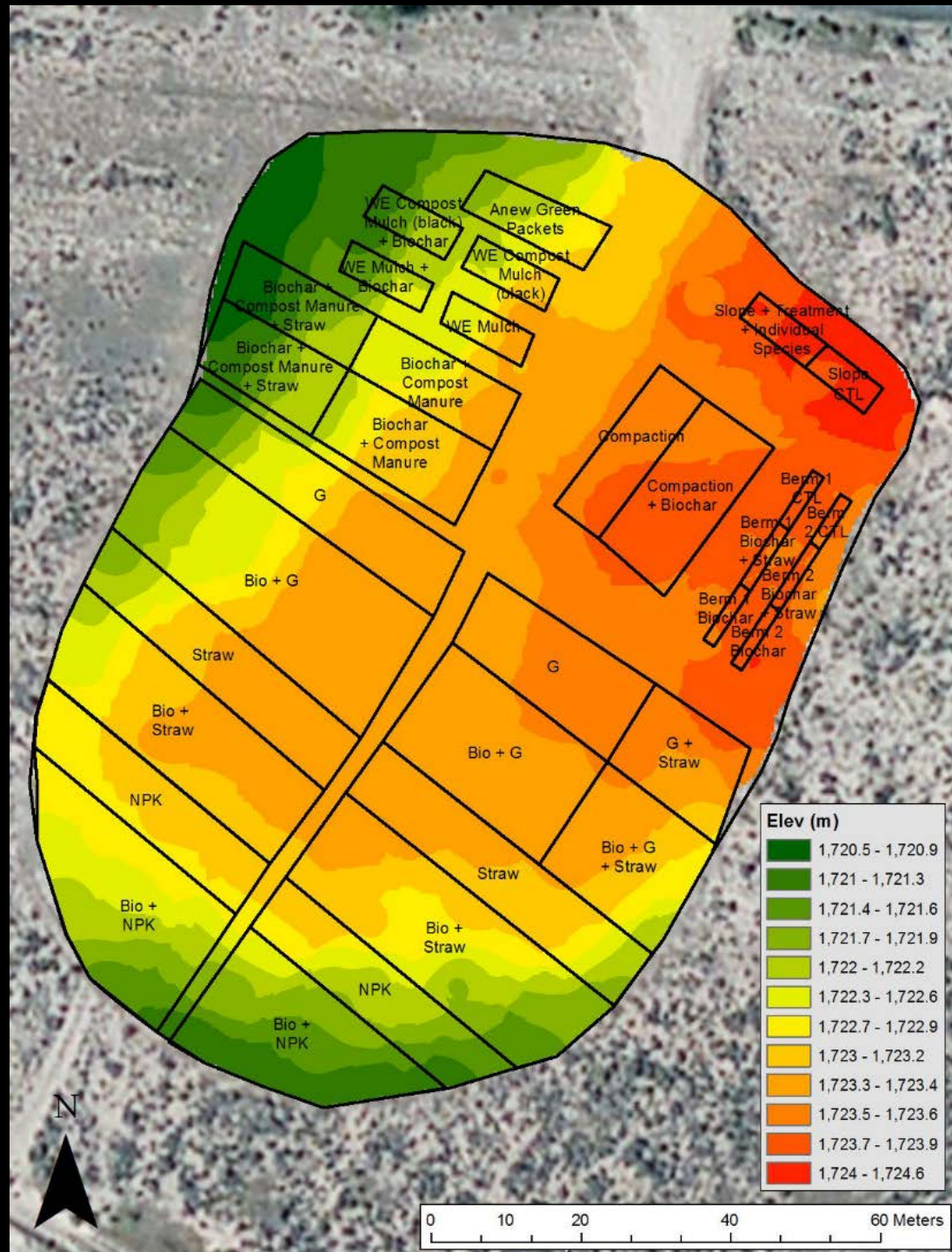






Figure 17. Infiltration comparison between QEP control and Biochar (5 tons/acre), green dye is used to illustrate flow paths through soil profile





WE Compost
Mulch (black)
+ Biochar

Anew Green
Packets

WE Compost
Mulch
(black)

WE Mulch +
Biochar

WE Mulch

Biochar +
Compost Manure
+ Straw

Biochar +
Compost Manure
+ Straw

Biochar +
Compost Manure

Biochar +
Compost Manure

Slope + Treatment
+ Individual
Species

Slope
STL

Compaction

Compaction
+ Biochar

Berm 1
CTL

Berm 1
Biochar

Berm 2
CTL

Berm 2
Biochar

Berm 1
+ Straw

Berm 2
+ Straw

Berm 1
Biochar

Berm 2
Biochar

G

Bio + G

Straw

Bio +
Straw

NPK

Bio +
NPK

NPK

Bio +
Straw

Bio + G

G

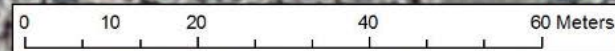
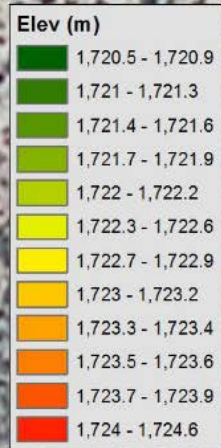
G +
Straw

Bio + G
+ Straw

Straw

Bio +
Straw

NPK









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