JF BioCarbon Systems Ltd

An innovated way of turning Pine beetle wood into an economic Success story.

Today's Pine Beetle Waste,,

Tomorrows Energy...

BioChar Feedstock.

These piles covers 1000's of acres in BC

Challenges.

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- ***The challenges are huge.***
- ***Transporting low value fiber is cost prohibitive.***
- ***No infrastructure.***
- ***Markets.***
- ***Government policies & regulations.***
- ***Get all stakeholders to the table.***

No Problems, Only Solutions.

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- ***The challenge is huge, but this fiber offers a goldmine of opportunities.***
- ***Don't transport the material, bring the portable units to the pine beetle waste.***
- ***No infrastructure? Build units in strategic locations and utilize what's already in place.***
- ***Markets are identified.***
- ***New policies are on the way or completed.***
- ***The need & will is there for stakeholders to want to participate.***

Snapshot of JFBC.

- ***What we at JFBC have to offer.***
- ***Small portable unit for demo purposes.***
- ***Environmentally Friendly Products.***
- ***Large portable units for on site processing, as well as stationary systems.***
- ***Three day setup time for new locations.***
- ***Can produce large tonnage of torrified wood for power stations fuel demand.***
- ***Can process all kinds of organic biomass, not just pine beetle wood.***
- ***When the feed stock dries up, you simply move to new area.***

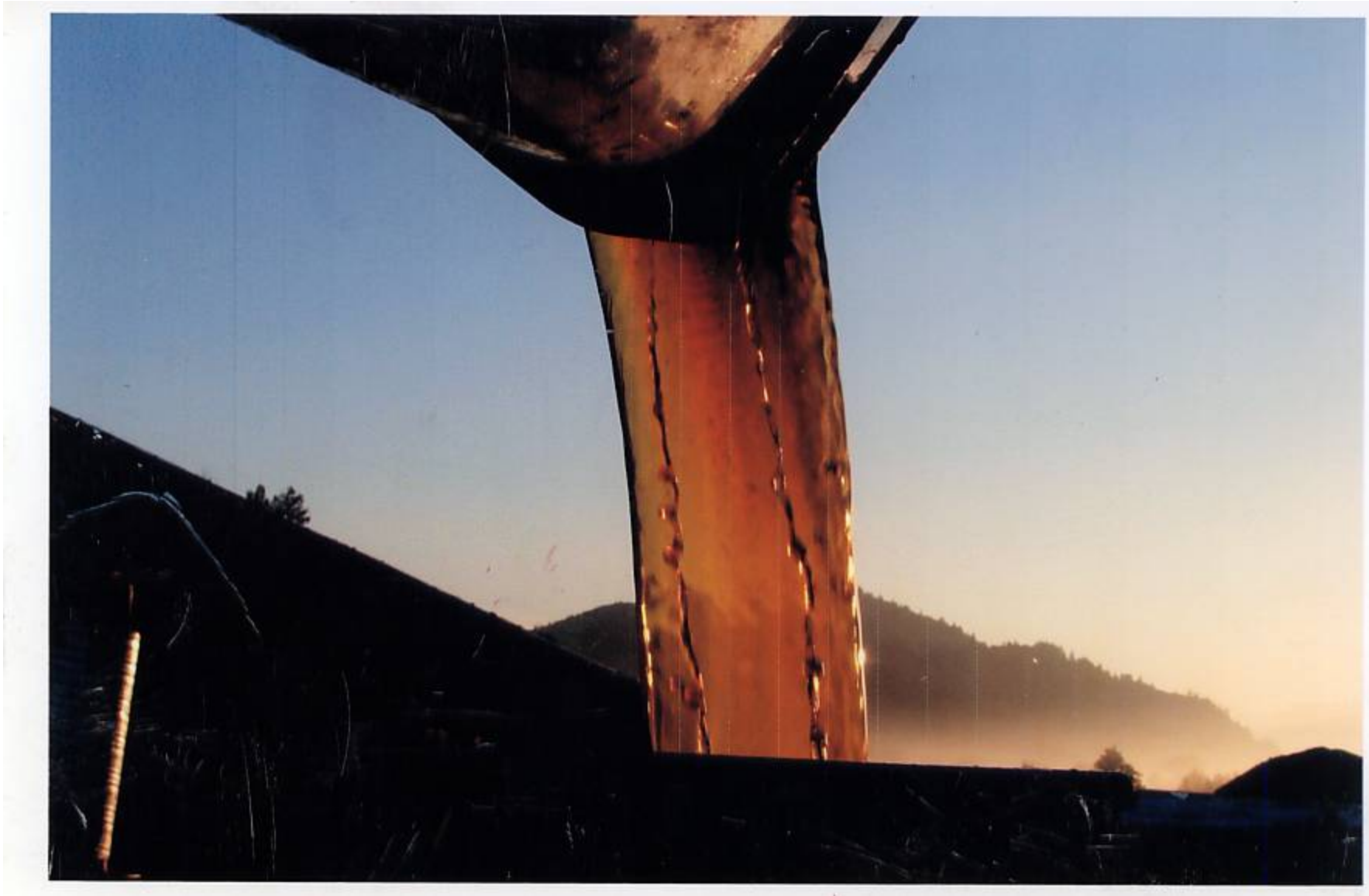
Small portable demo unit.

JF Larger portable plants.

Biggest Road legal Unit.

Some Products.

Bio-Oil

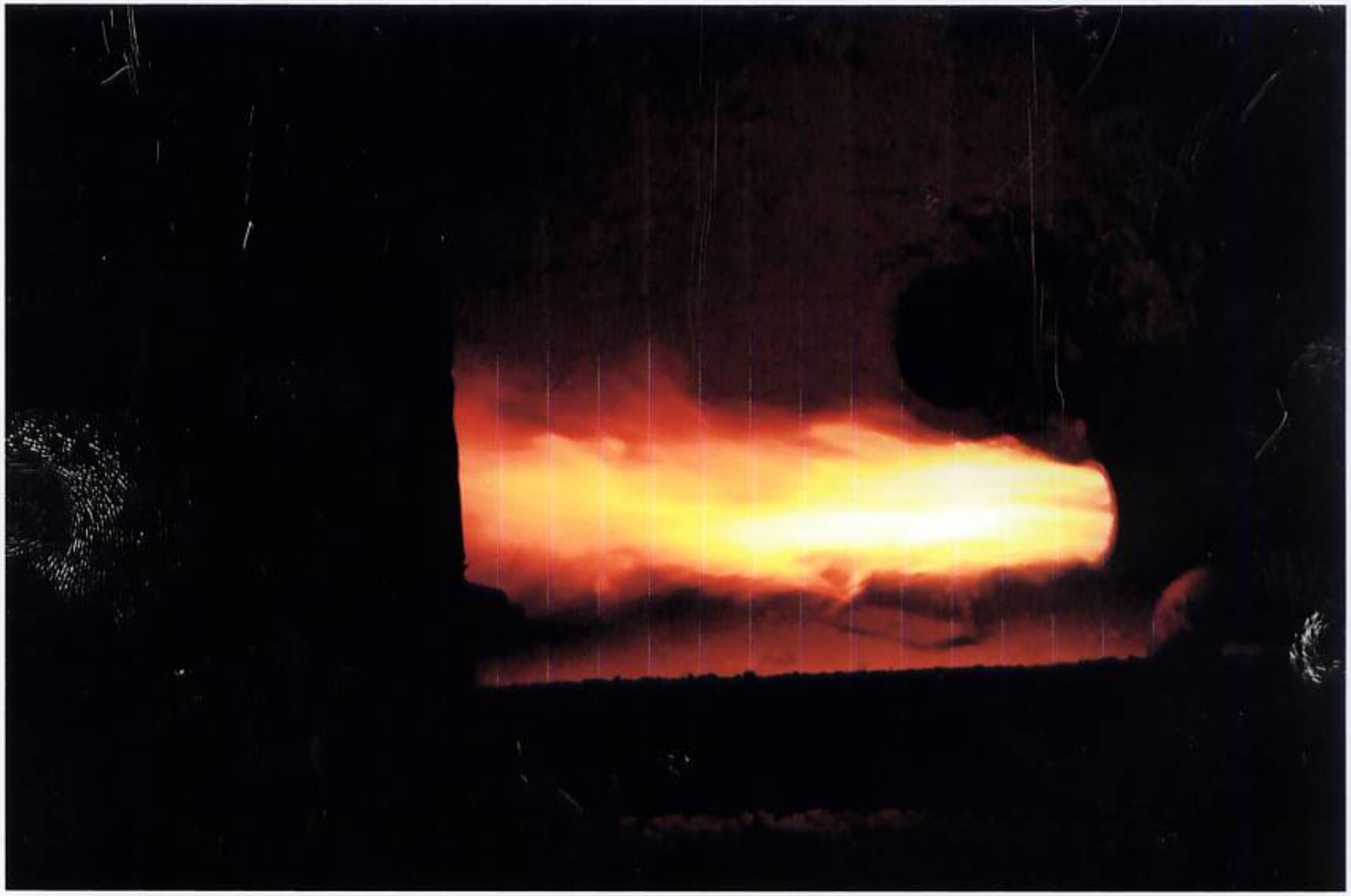


Product continued.

Charcoal

Self-fueling with biogas.

Biogas burners.



Excess Energy for turbines.

Biogas flare in test stove.

More product from Charcoal.

JF BioCarbon™
Charcoal Soil Enhancement

100% NATURAL!

READY TO USE
for Garden, Landscapes, Agriculture
...ANYTHING THAT GROWS!

JF BioCarbon™ is produced from organic wood charcoal and dairy cow manure, which when applied, results in natural, nutrient-rich soil similar to the black Terra Preta soil found in the Amazon Jungle. *(See back label)*

20 kg Net Weight

Product of Canada

JF BioCarbon™
Charcoal Soil Enhancement

The History of Terra Preta

In 1545, early Spanish explorers found lush gardens and rich, black soil deep in the Amazon jungle like none they had ever seen before. The civilization has long since disappeared and scientists have recently discovered how these ancient people created the abundant soil, some areas proving to be 2,500 years old.

Scientific research has discovered that this soil was made with powdered charcoal and fertilizer. Using this combination, tests performed by various universities have proven to simulate the Terra Preta soil.

Just as the Terra Preta soil was made 2,500 years ago, **JF BioCarbon Charcoal Soil Enhancement** is produced from powdered charcoal and natural cow manure, resulting in the ultimate nutrient-rich soil enhancer.

Application Instructions

Household Potting Soil:
5 to 10% JF BioCarbon to potting soil

Garden/Landscape:
50 to 200 lbs. JF BioCarbon to 1,000 sq. ft. garden soil

Agricultural:

Minimum Analysis Guarantee

Moisture	46.80%
Nitrogen	3.21%
Phosphorus	1.08%
Potassium	.47%
Ph	6.92%
Volume of Wood Charcoal	50%
Volume of Dairy Cow Manure	50%

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Other uses for Charcoal.

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- ***JF BioCarbon will enhance and promote faster growth for newly planted seedlings thus making for stronger start to a new forest.***
- ***This will also speed up reforestation in beetle effected areas.***
- ***Charcoal in soil also acts as a carbon sink and can qualify for carbon credits.***
- ***This has been proven by soil scientists. (see Terra Preta & biochar)***
- ***Using charcoal in soil will also minimize the need for engineered fertilizer.***

Benefits for First Nations

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- ***JFBC systems will provide hundreds of jobs for First Nation Communities where most of the P B W is located.***
- ***JFBC systems can provide power and heat for new community based start-up sawmills and dry kilns in out of the way First Nations Communities.***
- ***Dry wood can then be manufactured into flooring, moldings and furniture etc.***
- ***Community district heat can also be provided from the JF BioCarbon Pyrolysis stationary plants.***
- ***Heat can also be used for greenhouse operations to grow your own food.***
- ***Can become a huge employment opportunity for the Province of BC***

Stack emissions testing.

Stack Emissions Report.

Environmental Statistics

Parameter	Charcoal Unit (Feb. 22, 2001) @ 8% O_2	MWLP Wood Residue Emission Std. (@ 8% O_2)
Particulate (mg/dscm*)	6.6	50
Opacity (%)	0	15
Condensible Organics (mg/dscm)	<1.5	N/A
Sulphur Oxides (mg/dscm)	19	Typical standard 200-800
Nitrogen Oxides (mg/dscm)	69	Typical standard 100 to 300
Carbon Monoxide	356	Not regulated
VOC	20	Typical standard 55 to 120
Flowrate (dscm/min)	7.1	N/A
"dscm = dry standard cubic meters	*Test results are well below normally permitted levels for the listed parameters.*	

Where do we go from here?

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- ***Business plan.***
- ***Feasibility study.***
- ***Secure markets for product.***
- ***New environmental testing on big plants***
- ***Permits.***
- ***Approval of all stakeholders.***
- ***Approval and government permits.***
- ***FUNDING.***

Questions?

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