

Sustainability Audit Report
Baseline Assessment

&

BLUE LOTUS YOGAWEAR

MARCH 25, 2018





ab3 Environmental Inc.
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Blue Lotus Yogawear
181 Wicks Rd.
Moorpark, CA 93021

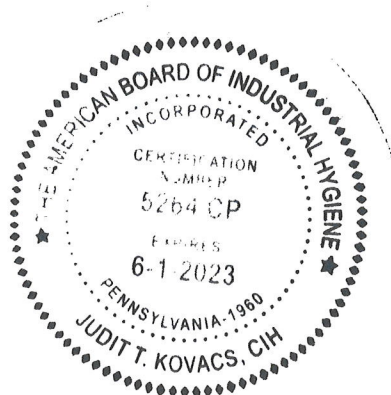
Dear Ms. in't Hout:

Please see the enclosed Sustainability Audit and Baseline Assessment Report for Blue Lotus Yogawear.
Please feel free to contact me with any questions.

Sincerely,

A handwritten signature in black ink that reads 'Judi Kovacs'.

Judi Kovacs CIH, CPEA
Ab3 Environmental Inc.
Owner & CEO



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II. Executive Summary

Ab3 Environmental Inc. is pleased to provide the results of the Sustainability Audit and Baseline Assessment to Blue Lotus Yogawear. The purpose of the audit was to validate the company's sustainability efforts and to provide a baseline assessment against which the company can benchmark their year-over-year continued sustainability improvements.

An onsite visit to Blue Lotus Yogawear operations, located at 181 Wicks Rd. Moorpark, California, was conducted by Judit Kovacs, CIH, CPEA on January 3, 2018. The production operations and key documents were reviewed, as well as the owner of the business, Ms. Erica in't Hout, was interviewed. The site observations during the visit, along with specific requested information that was subsequently provided to ab3 Environmental Inc. formed the basis of this report.

Sustainability is one of the key drivers for innovation and continued growth at the Blue Lotus Yogawear. The integration of sustainability into every aspect of the business is the aim of the company, where the owner, Ms. in't Hout, has adopted a continuous improvement philosophy to include sustainability elements into the company operations wherever possible, while also enhancing performance of the garments in terms of design, materials and manufacturing.

Good overall best practices were observed in the production operation relating to material efficiency, substitution of toxic materials, energy usage, and waste reduction. The overall sustainable elements of the production are well thought out.

However, some areas of improvement were identified and the following recommendations are suggested:

- Utilize the 2017 baseline assessment measurements to formalize goals for the next 3-5 years to continually improve operational sustainability and measure those improvements
- Consider installing sub-meters to isolate electricity and water usage in the production building.

While Blue Lotus Yogawear is an artisan production operation, the focus on sustainability is admirable and the company can be looked upon to provide an excellent example of corporate responsibility at this scale of operation.

III. Description of Operation

Blue Lotus Yogawear is an artisanal home-based business under sole proprietorship of Ms. Erica in't Hout. The business address is located at 181 Wicks Rd. Moorpark, California and was established in 2013. The apparel produced by Blue Lotus Yogawear is designed for yoga practitioners as well as for every day wear as casual athletic apparel. The clothing is sold online and at pop-up retail event venues such as festivals and fairs throughout the year.

The production space is approximately 900 ft² located on a dedicated first floor of a two-story building on the property. The second floor of the building has a built out living quarters that is utilized as a tenant space. Please refer to Appendix A for photographs of the production space.

Utilities are supplied by the following agencies:

- Water and sewer - Ventura County Waterworks No. 1
- Electricity – Southern California Edison
- Gas – Southern California Gas
- Municipal Garbage – Waste Management

The building has solar panels installed on the roof that generate electricity which offset the amount of purchased electricity from Southern California Edison.

Ms. in't Hout buys all of the cotton blend Prepared for Dyeing (PFD) fabric necessary for production in bolts from suppliers. Sample designs of garments are prepared at the Blue Lotus company location, where they are cut, sewn and dyed. Local home-based sewing workers located in the Moorpark vicinity are contracted for production sewing and a commercial dye house supplier located in the greater Los Angeles area performs the production dyeing of the garments. Once the garments are dyed and sewn, they are transported back to the Blue Lotus Yogawear company location, where they are further designed, embroidered, packaged and shipped.

Pop-up store sales of the apparel occurs up to 5 times per year in various locations in the western region of the U.S. The goods for sale are transported in the company vehicle, staged for sale and the unsold pieces are then packed and transported back to the company address. Third-party shippers are not used to transport merchandise for event sales.

IV. Scope of Assessment

The scope of the sustainability assessment focused on two areas, product and operations. This assessment was loosely modeled after the Higg Facility Environmental Module that has been adopted as a best practice by the Sustainable Apparel Coalition™.

For contextual purposes, the Higg Index 2.0 was introduced in 2013 to help standardize the methodology for measurement and evaluation of the environmental performance of the apparel products all along the supply chain in three levels—namely the brand, product and facility levels. The scope of the Index is to assess the environmental and social/labor performance of apparel and footwear products. The tool can be used to educate small and large companies to recognize challenges and sustain improvement. Since its inception, it has been widely adopted by the apparel industry as a way to drive brand standards and sustainability improvement into their value chains.

The limitations of using the entire Index tool for assessing Blue Lotus Yogawear include: 1) the lack of visibility into the entire supply chain, and 2) the company is part of a large complex of buildings, where submetering of water, gas and electricity usage is not present to be able to isolate the apparel production process.

To the extent possible provided by the aforementioned limitations, the following areas were reviewed and assessed:

Environmental Impacts of Blue Lotus Yogawear Products

Lifecycle stage	Environmental impact
Raw materials (growth, acquisition, and processing)	Resource consumption, greenhouse gas emissions, air/ water pollution and toxicity, soil degradation/contamination, biodiversity/land use, solid and hazardous waste
Clothing production and garment assembly	Greenhouse gas emissions, air/water pollution and toxicity, soil degradation/contamination, biodiversity/land use, water efficiency, waste, energy efficiency

V. Results

A. Environmental Impact of Products & Manufacturing Processes

1. Lifecycle Stage

a) *Raw Materials -Growth*

Blue Lotus Yogawear buys the cotton blended fabric from the following sources:

1. 100% Fabric Inc.
2. Green Textile Inc. (Certified Organic)

The company has made a commitment and a goal to source on 90% organic cotton from certified U.S. suppliers by the end of 2018. Blue Lotus Yogawear has partially met this goal, as the company currently sources 73% new and 17% rejected stock organic cotton fabric. The remainder 10% of the fabric bought is non-organic. 100% Fabric Inc. has not furnished the Certification to Blue Lotus Yogawear to back up their specifications, but the invoice indicates that the product is organic cotton. It is recommended that Blue Lotus Yogawear obtain a copy of the Certification for its records to validate.

b) *Clothing Production and Garment Assembly*

The company baseline production volume in 2017 was 355 lbs. Because there is no previous baseline from which to measure resource consumption, going forward, Blue Lotus Yogawear will be able to use 2017 year as a benchmark measure when monitoring sustainability improvements against their established goals.

(1) *Water Use Efficiency*

The company's only production water use is in the washing and dyeing operation, which is all accomplished in-house. A 2017 baseline usage established at 1331 gallons per year at the annual production volume of 355 lbs., which is 3.76 gal/lb. A best practice of the recycling water during an intermediate stage of the dyeing process was noted, which reduces the need for fresh water use.

(2) *Water Emissions Management*

The company utilizes the municipal sewer system for discharging effluent water from the production process. Based the relatively low volume of production in this home-based business and the materials used in the dyeing and washing process, the effluent discharges are allowable into the municipal sewer system.

(3) *Air Pollution/Emissions Management*

The small-batch dry dye transfer operations in production is not identified as an air pollution source and thus it is not regulated or permitted by the local government.

(4) *Toxicity*

The type of chemical, dyes and soaps used are of low toxicity and designed for household use. Colorant metals identified in the dyes are of low toxicity. Please refer to Appendix B for a list of hazardous materials and quantities used during 2017 calendar year. A copy of Safety Data Sheets for each listed hazardous material is kept on-site in the shop within a binder for reference.

The garments are washed and dried after the dyeing process and from a product safety perspective are non-toxic to the wearer.

(5) Energy Efficiency

Energy is supplied to the entire property by Southern California Edison. Blue Lotus Yogawear and its operations represents approximately ¼ of the energy usage of the property. As mentioned before in this report, the property is not sub-metered, thus obtaining accurate consumption records that can isolate production energy usage is not available. A 6 KW solar panel unit was installed on the roof in the beginning of 2017, that is generating electricity and selling the electricity back into the grid, for which the property gets credit from the utility company. According to the utility company, there has been a 73% reduction in the average kW hour of electricity usage from 2015 to 2017.

There is no HVAC system serving the production area. Equipment that use electricity for production include: two washers, one dryer, a small refrigerator, microwave, a few portable appliances, sewing machines, an embroidery machine, and some computer equipment used for product design. Please see an inventory list of machinery and equipment in Appendix C.

Based on the 2017 production volume of 355 lbs., the two washing machines ran a total time of 126 hours. The one dryer operated a total of 29.6 hours. Estimated energy consumption could not be calculated further due to the lack of information from the manufacturers of the machines.

The production area uses natural lighting during daylight hours while the large doors are open. This also allows for cross ventilation to cool the area during work. Overhead lighting is used as needed and task lighting is available for design and sewing work.

(6) Material Control & Efficiency

Blue Lotus Yogawear has an extremely efficient process by which materials are reused and recycled whenever possible. The following are some examples of materials efficiency:

- Unsold garments are donated to shelters and other non-profits for use by their patrons.
- Left over fabric cuttings are donated to local auto-repair shops for their use.
- Plastic tubs used for dyeing and bags used for packaging are recycled from various sources so that new such material is minimally bought for production.

(7) Solid and Hazardous Waste Management

Solid waste is separated into the recyclable components before being transported by the municipal waste vendor. Minimal solid waste is generated by Blue Lotus Yogawear. In addition, no hazardous was is generated by the company, as all chemicals are consumed in the production operation.

VI. Appendix A – Photographs



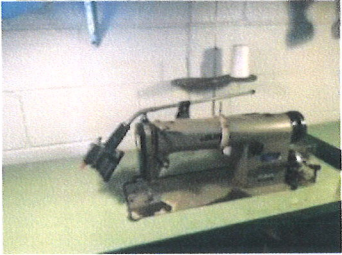
Inventory Storage



Dyeing Area



Washing Machines and Dryer



Embroidery and Sewing Machine



Company Vehicle



Production Area

VII. Appendix B – List of Hazardous Materials

Trade Name	Manufacturer/Distributor	Quantity
Procion MX Dye	Dharma Trading	.7 oz / lb. fabric dyed
Soda Ash	Dharma Trading	3 oz. / lb. fabric dyed
Urea	Dharma Trading	.5 oz / lb. fabric
Milsoft Fabric Softener	Dharma Trading	.25 oz /lb. fabric
Ecos Laundry Detergent		.10 oz / lb. fabric
Oxi Clean White Revive Powder	Oxi Clean™	.25 oz /lb. fabric
Calsonene Oil	Dharma Trading	.06 oz / lb. fabric
Bleach	Clorox™	occasional / 3 oz /lb. fabric *
Bleach Pens	Clorox™	occasional
Bleach Stop	Dharma Trading	occasional
Bleach Thickener	Dharma Trading	occasional/minimal
Color Remover	Dharma Trading	occasional/minimal

VIII. Appendix C – List of Machinery and Equipment

DESCRIPTION	MAKE	MODEL#	ENERGY DATA
Sewing Machine- Single Needle	JUKI	DDL-555	
Sewing Machine- Overlock	Rimoldi	329-00-2CD-05	
Sewing Machine - Coverstitch	Union Special	52800-BRZ	
Sewing Machine- Embroidery	Baby Lock	BMP 6	
Washing Machine - 70 Series	Kenmore	110	120 V / 10 AMP
Washing Machine	Maytag		120 V/ 7 AMP
Dryer- 80 series	Kenmore	110 60852990	120 V/ 28 AMP
Refrigerator	Avanti	VSF24 - 115V	
Microwave	Amana	Radar range	
CAD Pattern computer	HP		
Pen Plotter	Gerber	AP 300	
Copier	Brother	MFC- 7340	