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ISO 17025 Accredited Lab for the Medical Marijuana Industry

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Founder, President & CEO

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CEOCFO: ***Mr. Des Lauriers, what is the concept at ProVerde Laboratories?***
Mr. Des Lauriers: ProVerde is an ISO 17025 Accredited lab that brings world-class science to the testing, extraction and formulation of the medical marijuana industry.

CEOCFO: ***How is it being done now, and where does the world-class service element at ProVerde come into play?***
Mr. Des Lauriers: There are a variety of technologies that have been used historically in the testing of medical marijuana starting in California with Gas Chromatography, and the intent at the time was to see how high you could get and what the THC content was in marijuana. The first testing started was for that purpose. As time moved on, we learned more and more about the medical properties of marijuana, and then testing evolved to give better results and technology has evolved very far since Gas Chromatography. We are now using a system called UPC^2, which is Ultra Performance Convergence Chromatography. It is probably the most sophisticated testing technology in the world today. We use super critical carbon dioxide as the mobile phase in our testing, so that means we use 100 to 500 times less toxic waste compared to other testing technologies that are out there in the medical marijuana market today. By doing that, we are environmentally friendly, and the carbon dioxide that we use is actually recycled carbon dioxide that is recycled from,

amongst other things, biodiesel production and from beer making. Those two industries produce a lot of carbon dioxide that is collected and recycled. That is what we use as the mobile phase in our testing and extraction technologies here.

CEOCFO: ***How does the cost compare with the other techniques?***
Mr. Des Lauriers: The cost of the equipment is more than other technologies, but the cost needed to perform the next test is less than most other technologies if not all of them. One of the primary reasons is that hazardous materials and toxic waste. As I mentioned, we produce 100 to 500 times less toxic waste, so I buy 100 to 500 times less of those nasty chemicals, and I do not have to dispose of them, which is where a lot of the cost of testing comes in, is disposing of your waste materials. The fact that we produce such tiny amounts of waste makes our methodology environmentally friendly and the shorter analysis time, the cost of our testing less expensive than other methodologies.

CEOCFO: ***For people who would be testing, is it an industry that cares about the environmental approach?***
Mr. Des Lauriers: If you have spoken to the people in the industry from the industry veterans up to new participants, this is a very environmentally conscious group and very much purists. They like the plant, they like what it does, they like the things that you can do with the plant. Many people go for organic farming in this space. They try to minimize the type of chemicals put in the soil and on the plants in the process, so this group more than most other industries is very environmentally and green conscious.

CEOCFO: ***Who is using your services today?***
Mr. Des Lauriers: Today we are doing work for dispensaries and caregivers in Rhode Island, Massachusetts and Maine. We are doing contract services for laboratory design and consulting in a number of other states across the country right now.

CEOCFO: ***Will those be your labs or are you franchising them?***
Mr. Des Lauriers: Yes. We are actually looking at both scenarios. Independent third party lab and at the ProVerde in-side model where we actually would bring our world class science, recipes and technologies into some people's operations. One model is that the grower would grow and then the lab would then take that and process everything that was going to be made into medicine that was not going to be in the plant form, so all of the derivatives and so forth. It brings us to medicine only states where there is no plant material or bud consumed, nothing smoked, it is all derivative products. We have technology that we can test and extract, but the coolest piece of technology lets us take that extract and purify that extract into the individual purified cannabinoids, which is groundbreaking in this industry and the basis for pure medicine. We have been creating purified CBD, THCA, CBD and CBG. We are actually able to purify those individual cannabinoids for one of the first times in the cannabis space.

CEOCFO: ***With so many changes, how do you keep up in the industry?***
Mr. Des Lauriers: There is an awful lot there. It is probably the only industry that varies so much from state to state and will for a while. What we do is we look at standards. We believe that ultimately at some point way down the road the federal government will be involved, and there

will be standards applied to this as we realize that this is not a harmful plant and it actually has miraculous properties to it. The legislation that moves forward in every state changes, so where we can we try to educate legislatures on the benefits of testing. We actually were part of the group involved with trying to get testing to be mandatory here in Massachusetts because we want to sell this as medicine and we believe in the medicinal properties of this. It should be treated as medicine, and like every bit of medicine that we use today, if it goes on or in our bodies, it is tested. That was our approach in talking to the DPH about the hazardous of contaminated marijuana. In a Mayo Clinic study on people who have gotten sick from contaminated marijuana, they did not get sick from the marijuana itself, but from the mold, mildew, e coli and things that can get in it in the process. What we have done is looked at FDA standards, agricultural standards and the American Herbal Products Association, of which we are members. We look at what those standards are that they produce for all the other kinds of things that we consumer. We used that as a target for selecting our equipment and infrastructure along with the standards we use. We do keep track in every state, and we research regularly what is happening in each state and what their standards are and what the legislation is that is coming forward. At some point, we do believe there will be some national standards, but in the mean time we're and ISO 17025 Accredited lab and operate at a high standard so that we do not have to change what we do when other regulations come down the road.

CEOCFO: ***Do you foresee a point when the FDA would get involved?***
Mr. Des Lauriers: Someone will be involved, the Agriculture Department or the FDA. Somebody at the federal level I believe at some point will be involved, because at some point when marijuana is allowed federally we will not have the state-by-state patchwork. Prohibition followed the same path, and this is just another version of prohibition. It is very similar with alcohol prohibition, which was allowed to be sold in select places for people of certain conditions in a patchwork across the country. It is the same thing today. We have that exact same parallel happening where it is being sold for medical purposes in limited places in a patchwork across the country. As people become more aware and as better and more science is introduced, I think people will end up with a great understanding of what this plant is and what all the properties and things that can come from it.

CEOCFO: ***Would you tell us the different points where you are able to analyze?***
Mr. Des Lauriers: We started out to do release testing, and as we got involved in the industry, different organizations and going to trade shows we started to learn all the different segments of the industry, we realized that testing is across the entire spectrum. For instance, when you are trying to start to grow, people need to choose what plants they will grow. We actually do what we call Chemotyping. On a seedling, we can look at the plant. On the fifth set of leaves, we can take a leaf and tell you what the basic cannabinoid profile is going to be. Where that is relevant today is because people are looking for high CBD and low THC strains to make medicine that treats a whole variety of conditions supremely. The most notable, popular one is epilepsy in children and seizure disorders. High CBD has been extraordinarily effective in treating those conditions. If I am going to start a crop and I am trying to reach that medical market, we can tell you on a seedling if it meets the profile of what you are trying to

get instead of waiting for months to grow a full-grown plant, we are taking the flower and testing the flower. With our science and technology, we can tell you that very early on. Another thing we can do is nutrient uptake. When you put fertilizer in the soil, you can measure and quantify what you put in. What you do not know is what the plant is choosing to uptake. We can take the tip of one of the fingers of the leaves and we can tell you what that plant is actually choosing to consume, which can help you modify how you feed that plant and be able to have more prediction of what that plant's behavior is going to be. We also do peak harvest times. How do I know when my plant is ripe? It has all been an art form to this point, When you will get a cutting or seeds from somebody and say it is this many days in a vegetative state and you flip the light, it is this many days for flowering, and then it is ready for harvest. That has been a very good guideline. People take a magnifier and they look at the structure of cannabinoids on the plant and look at those to see if it is ready. We take a sample and look at the science behind it. CDGA is the granddad of all the cannabinoids, and in the plant that gets converted to THCA, CBDA and so forth. What we can do is look scientifically and see if the plant has converted all of its base cannabinoids into the subsequent cannabinoid. If that is the case, the plant is done and ready to harvest. By doing that, in some studies people are getting 15 percent greater yield in their product by waiting eight to 10 days more than what they thought. That is all the stuff on the growth side. When I harvest this, we can test the cannabinoid profile for composition and potency, and that tells you about the efficacy of the medicine. There are all the health and safety components of that to test for mildew and fungus, Mycotoxins, bacteria, salmonella and all those kinds of things. The plants are picked dried and then some of that will go to flower sales. The rest is going to be extracted, and then that extract is tested. That will tell you the yield and purity of that extract. That extract is then used to formulate all of the derivative products. Am I going to make vape pens, am I going to make dissolvent strips, transdermal passes, tablets, salves, balms and all that stuff. There is testing on that so you know how to formulate your products, and then there is testing again at the end to make sure you got it right and that it is free and clear of all the things that could be harmful to people.

CEOCFO: ***How do you get the attention of the community?***

Mr. Des Lauriers: We do a variety of things. We have been involved with people who were going through the application process very early on, so our role on the up front is providing education to people. We do a lot of speaking, we sponsor events, and we have been part of that whole community of people who are in the space. One of the things that we did is we became ISO certified. We wanted to establish the highest standard with which we could operate, and for us in the laboratory space that ISO is 17025 accreditation, which we have just received. We believe that is the broadest scope of certification in the marijuana industry. In doing that, that says to anybody in the world that this company has chosen to operate at the highest worldwide standard possible. By doing that, that tells people that they can put their faith and trust in us and that we believe in what we do and we have gone to the highest level of accreditation possible to say to the world that this is a legitimate, real business. People have had this issue with marijuana over time because of the effectiveness of the U.S. government in prohibition and telling people how wrong this is. We have been consuming this product spiritually and physically for 7,000 years. It has been illegal for 70 years at the behest of the United States, and that is changing because people

have realized there are great medical benefits to this. We are completely serious about the medical benefits of marijuana, and that is what we talk to people about. We do research on the medical benefits of this, and all of this will come out to the world. It is already coming out where people are seeing children who have had seizures. We are helping a family up in Maine with a child who is on seizure medication and goes from being a warm, catatonic body and then because of kidney failure or liver failure they decrease the amount of medicine and then the seizures start up. They start the seizure medicine, and all those negative effects come. They now are using extract from marijuana, a few drops a day, and controlling all of the seizures with none of the side effects. By doing that, and getting to the people who have great success in these stories and their lives are changing with no side effects, that is very powerful information. We help convey that information to people that this is what is happening. These are people who you can actually call and talk to them to see what their stories are. That is very powerful when they see success that way. They see people who are taking it to treat their cancers and they are having great success with that. That is world changing to do that, and we promote those stories to people to help them understand what can happen.

CEOCFO: ***Why does ProVerde Laboratories standout?***
Mr. Des Lauriers: We have great science and we are committed to research, to patient care, we are committed to the environment and the communities that we serve both physically where we are and communities that we service with the services that we provide. There are places where they are opening up compassionate care centers and we are all about that compassionate care. Where people are giving discounts, we are right there to participate with that. We sponsor events, and we want to partner with people to bring great medicine to be life changing for people and environmentally friendly in a cost-effective way.

Interview conducted by: Lynn Fosse, Senior Editor, CEOCFO Magazine

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