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**Standard Methods for the Application of
BART testers in the
Environmental Investigations of
Microbiological Activities.**

First Edition, 2010

14 June 2010

IN MEMORY

GEORGE ALFORD

George Alford lived in Daytona Beach, Florida, died in 2009 after battling acute leukemia. He will be remembered by many in the ground water and environmental fields as “Big George”. He instinctively knew the ways of Nature and how to read the signs. Rejected formal education as being simply boring and yet he came to be one of the most respected people with a unique knowledge of water wells and the things microbes did to them. Basically he saw Nature as just healing the intrusion made by the wells into the groundwater. George developed many techniques to fend off microbial plugging of wells. He tried gamma radiation at a time when nobody thought it practicable. After many trials and successes it ended with the patented blended use of chemicals and heat treatment called BCHT. This technology worked and made water wells sustainable provided the proper monitoring and maintenance was done. George dreamed of one day of having a camera pointed at the ground that would take pictures of the microbes plugging deep down water wells around the bore hole and screens. That hasn’t happened yet but one day that dream will also come true. George will not be forgotten by those who crossed his path for he was larger than life, always prepared to listen and loved to find the solution. We worked together since 1981 when George phoned me up to tell me that you can’t heat up water wells. After the phone went down with George thinking I was crazy he wheeled an old water heater over one of his plugged wells and flushed

it with hot water. It worked, the microbes died, the well thrived again and George phoned me back to say yes you can treat wells with heat. But that was just the beginning of a long journey with failures and successes and George loved to learn from the failures but never crowed about successes. George would simply hum, say “soon come, man!” and see how he could make the treatment even better.

Today there is a little piece of George in the memories and hearts of the many he talked to, the few he argued with, and the ones who simply said well George was right!

Times well spent and memories now shared

Thanks George

Roy Cullimore

2 March 2010

Foreword

In some ways George Alford was a big part of looking at ways to detect these nuisance bacteria that can grow in water and he thought there needs to be a simple test that anyone can use. Well I helped him with BCHT and he helped me with that simple test. This Standard Methods of BART testing has its foundations, indeed deep roots, into those conversations that gradually by trial and error to the biological activity reaction test (BART™, Droycon Bioconcepts Inc, Regina, Canada). The first BART tester was made in 1986; the first sale was in 1990 with the beginning of manufacture. There has not been an attempt to grab the market but rather just let the sales grow (organically). This slow growth has been a Godsend since we have been hearing back from customers, making corrections, improving the product. Today the BART tester is made in-house using plastic injection moulding, clean rooms and, since 2001 full ISO 9001:2000 certification to make sure we are doing it right.

This book “*Standard Methods for the Application of BART testers in Environmental Investigations.*” has been produced to standardize the methods. In a typical week I get three or four e mails and a similar number of telephone calls enquiring about the applicability of the testers as they have become adopted. In general the BART testers are seen to be simple to use in the field or the lab, gives precision, without undue need for math and chemistry. Chapter 11 addresses the potential use of BART testers to unlock bacterial activities in places where no agar plate has dared to explore. These testers have been successful because

they are both simple to use (for the operator) and comfortable for the bacteria whose activities are being investigated.

There are many who now guide the direction of the BART testers to achieve their goals of detecting specific bacteria with precision and speed. In Droycon Bioconcepts we have a team of people who all share their enthusiasm to make the testers better. I would like to thank particularly: Natalie, (“and where’s the money coming from for this?” Vincent (Webdude extraordinaire), Derek (“tweak, tweak!”), Myrna (“the inventory is only this big”), Donna (“it’s really shiny now”), Jason (“But Dad!”), Ahmed (“yes it will be done by 4:30!”), Behrooz (“why don’t you?”), Kristina (“next month India and then I might go to Nepal!”), and Lori (“have they phoned yet?”). Thank you all for making a team effort that works.

Beyond the horizon of Droycon there are the many without whose help, thoughts, questions, suggestions and criticism we could not be anywhere near where we are today. The list would go on for pages but I will just say thanks you guys and keep it coming. Finally I would like to acknowledge the Prokaryotes for allowing me to play with them and maybe understand them a little better. Silence was the beginning and a void will be the end but we must all remember that, while dwelling on Oceania (also known wrongly as the Earth), the biggest all-embracing biomass is formed by those Prokaryotes who just do what they do best.

D. Roy Cullimore
14 June 2010

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