SUMMARY OF AKIN'S BACKGROUND – REVISED 1/1/11

Jack **Akin** is an environmental scientist and possesses a BS Operations Research, MS Environmental Engineering and other accredited graduate work in geology, physical chemistry, biology, inorganic chemistry and public health, is an Oregon and New Mexico licensed and registered Professional Engineer, has owned and operated within two environmental laboratories, and is at present a consultant to federal, state and local governmental, business and private entities.

Living in Southern Oregon, Jack, with wife Lorraine, are deeply rooted in family and community.

The following summarizes Akin's professional development.

Having been a contractor and small businessman prior, this narrative will begin with Akin's graduation from Oregon State University in June, 1985.

In June, 1985 **Akin** received a Bachelor of Science degree in Operations Research, with additional minors in Applied Mathematics, and General Engineering. Before graduating **Akin** had begun working as the Project Engineer for Skyline Products in Harrisburg, Oregon, a manufacturer of interiors for aircraft and other vessels, including that for military ships (Nomex honeycomb panels, decorative substrates, Kevlar structures, etc.). Additionally, **Akin** was made supervisor of laboratory operations and environmental issues at the facility. **Akin** also created a master planning program, using linear programming, to optimize standard hours at the facility. Linear programming uses assigned variables, each one representing an operation in the production process, to construct hundreds of mathematical equations, thus describing all contracted jobs, and optimizing the order from the job backlog. In this way, **Akin** was not only able to provide the plant with the optimal order to complete contracted work, but was thus able to identify production bottlenecks, theretofore unknown.

In November, 1986, **Akin** became aware of an acquisition by White Consolidated (WCI), Div. Electrolux, AB, world's second largest manufacturer of white products (owned Kitchen Aide, Kemper, Poulan, etc., over 200 manufacturing plants around the world) of a manufactured cabinet group. The largest of this group was located in Grants Pass, Oregon. **Akin**, after notifying Skyline 60 days in advance, applied for and was offered the position there of Environmental/Project Engineer (at WCI) in December, 1986. There **Akin** headed all engineering, capitalization and environmental projects, reporting to the Plant Manager. Additionally, **Akin** reported regarding Corporate-wide responsibilities.

WCI produced over 5000 cabinets/week, utilizing highest technology (automatic surface coating, high-speed air-bearing turbines, humidification and electro-static coating processes, etc.), and was highly regulated. **Akin** introduced computer-aided drafting, plenum stack design and construction, installed an industrial well, measured and installed air makeup, met with the other WCI environmental engineers and managers in Columbus, Ohio annually, managed safety and occupational health at the facility, managed all environmental issues, and assisted the maintenance department with all on-Site projects.

Akin at that time became aware that participation via continued education and professional association, particularly skewed towards the engineering fields, would be necessary in order to best serve. He applied for and was accepted to sit in on the eight-hour EIT exam, conducted by the Oregon Engineering Examiners, in 1987. After passing the exam, Mr. **Akin** was awarded EIT # 8158, July, 1988. **Akin** also became a member of two engineering associations, Society of Manufacturing Engineers (SME) and the Institute of Industrial Engineers (IIE). **Akin** was given status as Senior Engineer in both organizations, and, in the second year, became the Vice-President of SME, working with the President at that time, Mr. Donald Skudstad, Dean of Manufacturing Engineering at Oregon Institute of Technology (OIT, part of the Oregon State University System).

During the period between December 1986 and March, 1990, **Akin** began conducting seminars and presentations, requested by SME, OIT and the Rotary Club of Oregon. After such presentations, **Akin** began receiving requests from manufacturers and other businesses needing assistance with environmental and safety and health-related issues (e.g. landfill wastewater treatment, engineering controls design, air and hazardous waste permitting and control, storm and industrial wastewater treatment design, personal protection, etc.). After informing his employer, WCI, **Akin** began accepting this type of consultation work.

As a result, and because a couple of Akin's children, nearing college age, needed more financial help, **Akin** decided to merge into full time consulting. **Akin** gave his employer 60 days notice, and assisted in training a replacement, and ended his employment at WCI in March, 1990.

He was immediately contracted, before leaving WCI employment, as a Senior Engineer to assist Litton Industries, Guidance and Control Division, assuring all environmental/occupational safety management issues and permits, as well as acting as consultant to Southern Oregon Sanitation regarding its subcontracted functions serving the Marlsan Lagoons and Josephine County municipal landfills. During the next 12 months **Akin** obtained contracts with an additional 35 manufacturing facilities.

Between 1990 to 2000 **Akin** accomplished a number of academic, license and certification objectives. Academically, **Akin** obtained his GRE and completed a full year of the biological sciences (e.g. human genetics and microbiology), graduate level physical chemistry (two courses), inorganic chemistry (one course), a geology practicum, and a public health practicum within the Oregon State University system.

He also completed the following coursework via distance education as follows: Groundwater Treatment Technology, Advanced Environmental Toxicology, Advanced Pollution Prevention, Advanced Environmental Engineering, Aquatic Kinetics, Petroleum Engineering and the Environment, Dissertation proposal, Dissertation, Thesis Proposal and Master Thesis, resulting in a MS, Environmental Engineering. Distance education was selected because this kind of coursework was not available via the Oregon University System at the time.

The CSU coursework culminated with examination, conducted and supervised by proxy by professors within the Oregon State University System.

Additional to academic work completed during this time period (1990 – 2000), **Akin** obtained the following licenses and certifications, granted by the State of Oregon, EPA, ODEQ, National Fire Academy, International Code Council, via examination and training; Underground Storage Tank (UST) Installation (ODEQ), UST Decommissioning (ODEQ & ICC), System Cathodic Protection (ODEQ), Soil matrix Analyses (ODEQ), Hazardous Materials Operations and Emergency Response (NFA), Incident Commander (NFA), Heating Oil Tank Decommissioning (ODEQ & ICC), and Asbestos Building Inspection (EPA).

No time was taken off biochemical/engineering profession during the accomplishment of all academic coursework, certification and licensure described above, or that described below.

In 1994 **Akin** opened an environmental laboratory in Grants Pass, Oregon, and subsequently a larger one in Tigard, Oregon in 1998. He received full certification for both, and, in 1999, was elected President of the Oregon Environmental Laboratory Association (representing about 80 labs, in State and out-of-State).

During 4th ¼ , 2000, **Akin** was approached by a licensed, professional civil engineer, Mr. Tim Bossard, to assist him in understanding and developing a highly technical, ground-breaking wastewater treatment technology that had been introduced and embraced by the State of Israel. Mr. Bossard had been approached by mutual acquaintances, because his engineering experience qualified him to design conventional systems. **Akin** agreed and became half owner of a new wastewater treatment, bio-engineering firm. He began designing smaller systems in the States (Northern California and Southern Oregon) in 2001. In the meantime (beginning about 2006, the technology, invented and patented by Dr. Efim Monosov, was purchased for several million dollars by a group of professional engineers and scientists, via a company solely formed for that purpose, called Aquarius Technologies, Inc. Mr. Monosov accepted part ownership in that company, and moved (temporarily) to the US. **Akin** had been interviewed by Aquarius regarding the technology, prior to its purchase, in Washington DC. Although Aquarius has since developed a network of distributorships around the county, **Akin**, having a previous relationship with Mr. Monosov, is not reportable to any Aquarius distributorship in any US location. Nevertheless, **Akin** enjoys a cooperative and productive relationship with Aquarius.

During this time, though Mr. **Akin** had developed considerable licensure, certification and academic qualifications as a biochemical/environmental consultant and engineer, he now began to see that professional engineering licensure would be required, and was highly valued within the design/build water/wastewater treatment industry.

Akin applied to the Oregon Board of Engineering Examiners and was approved to sit for any one or all of those engineering categories entitled Industrial Engineering, Environmental Engineering and Mechanical Engineering. **Akin** chose Environmental due to its direct applicability to his background and future plans.

In 2005 **Akin** took the eight-hour exam, and thus received the license as a professional engineer in January, 2006. The license has not really altered Akin's professional activities, but eliminated the step of getting his work, when necessary, stamped by another professional engineer.

Since 2006, **Akin** has also obtained a license as a professional engineer in the State of New Mexico, in order to facilitate upcoming work there. Most recently, Mr. **Akin** has provided the National Council of Engineering Examiners (NCEES), the national licensing body for all US engineers, all of the above applicable educational and work experience details since 1985. The NCEES required the submission of all college/university transcripts, employer information and associated supervisors, contact numbers, and professional association/work collaboration with five professional engineers. After its extensive background checks, all professional and academic work was accepted by the NCEES and resulted in the NCEES recommendation to the State Board in New Mexico to issue Akin's license there. Further, this information, now resident at NCEES, will be submitted to any other State Board at Akin's request.

At Present

John (Jack) **Akin**, MS, PE is a biochemical/environmental engineer and business owner. His engineering firm, EMC - ENGINEERS/SCIENTISTS, LLC and its affiliate, the BIOSCAPE TECHNOLOGIES GROUP, is located in Medford, Oregon. **Akin** continues to provide services as an environmental scientist and engineer to government, manufacturers, financial institutions, and other private entities, primarily within Southern Oregon, Northern California, and within other states associated with these clients. After considerable R&D, **Akin** is in process of entering into contracts for large applications of the wastewater technology described above at various locations in the US, particularly and most currently in New Mexico and Oregon.

Other associations and activities include, adjusted from time to time per Akin's convenience: ASTM Committee membership, Member British Library, daily (prerecorded) and weekly (live) radio programs primarily focused on science and Scripture (creationism and intelligent design), the reliability of Scripture, etc. **Akin** also visits public and private schools locally at their request, and serves in the leadership at his church, Applegate Christian Fellowship. His daily radio program is podcast and webcast (just type in **Akin** For the Truth).

Akin, as of 4th 1/4, 2008, became a board member for the Cheyenne S.A.F.E. Home at Early Morning Farm, an exciting organization with members Becky Joffer, Mike Franell, Jack Smith, David True and Lin Englehorn (Board membership subject to change). Interestingly, **Akin** has had personal and/or professional relationships with many of these Board members, prior to becoming a Board member himself.

The following is a qualifications statement, required for phased study per ASTM standard 1527-05:

Phased Study Qualifications Statement

"*The consultant is an environmental scientist and possesses a BS Operations Research, MS Environmental Engineering and other accredited graduate work in geology, physical chemistry, biology, inorganic chemistry and public health, is an Oregon and New Mexico licensed and registered Professional Engineer, and has been licensed to construct monitoring wells and all UST services, is certified as an incident commander and asbestos building inspector, and is licensed to performed laboratory analyses. The consultant has produced or supervised the production of Level I, II and/or III and Brownfields assessments for over 1300 sites as of the date of this report, is contracted at present to consult manufacturing and other sites regarding stormwater, air permits, haz-wastes, biosolids management, wetlands determination, SPCC, and other planning, and presently manages five RCRA landfills (sampling, monitoring, statistical analyses and reporting).*

Therefore, I, John (Jack) Akin, declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined in §312.10 of 40 CFR 312" and 12.13.2 "I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of subject properties. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.""