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8

9 UNITED STATES DISTRICT COURT  
10 CENTRAL DISTRICT OF CALIFORNIA  
11 SOUTHERN DIVISION

12 SECURITIES AND EXCHANGE  
COMMISSION,

13 Plaintiff,

14 v.

15 MEDICAL CAPITAL HOLDINGS,  
16 INC.; MEDICAL CAPITAL  
CORPORATION; MEDICAL  
17 PROVIDER FUNDING  
CORPORATION VI; SIDNEY M.  
18 FIELD; and JOSEPH J.  
LAMPARIELLO,

19 Defendants.  
20

Case No. 8:09-cv-0818-DOC (RNBx)

**DECLARATION OF MATTHEW  
ARNO IN SUPPORT OF MOTION  
FOR ORDER APPROVING (A) SALE  
OF LOANS MADE TO TRACE LIFE  
SCIENCES, INC. AND (B)  
BROKER'S FEE**

Date: May 2, 2011

Time: 8:30 a.m.

Ctrm: 9D

Judge: Hon. David O. Carter

21  
22 I, Matthew Arno, declare as follows:

23 1. I am a Vice-President, Owner and the Principal Health Physicist at  
24 Foxfire Scientific, Inc. ("Foxfire"). Foxfire was retained to provide an analysis of  
25 the operations at the Trace Life Sciences facilities in Denton, Texas. The following  
26 facts are within my knowledge and if called as a witness I would testify to them  
27 under oath.  
28

1 2. I have a Bachelor of Science Degree and a Master of Science Degree in  
2 Nuclear Engineering from Massachusetts Institute of Technology. I also have Ph.D.  
3 in Health Physics from Texas A&M University. I am Professional Engineer  
4 licensed in the state of Texas and a Certified Health Physicist. My curriculum vitae  
5 is attached hereto as Exhibit A.

6 3. I have reviewed documents pertaining to Trace's operations and its  
7 Radioactive Materials License issued by the Texas Department of State Health  
8 Services. I have visited the Trace facilities on two occasions, met with the scientists  
9 currently overseeing the facilities, and participated in several calls and discussions  
10 with Paul Crowe of NuView Life Sciences, Inc., the current management company.

11 4. Based on my review of documents relating to Trace's operations and  
12 license, and my own observations from touring the facilities, I estimate that the costs  
13 to complete the radiological decommissioning of the two facilities would be in the  
14 \$2,000,000 to \$4,000,000 range. I estimate that the raw materials and equipment  
15 located at the facilities, exclusive of the linear accelerator and cyclotrons, if fully  
16 decommissioned and sold in the near future, would generate an aggregate gross  
17 sales price between \$105,000 and \$150,000 if liquidated at auction. The linear  
18 accelerator and cyclotrons have minimal or no value if liquidated as the radioactive  
19 waste disposal cost for the radioactive components would likely exceed the potential  
20 value of parting out the non-radioactive components.

21  
22 I declare under penalty of perjury that the foregoing is true and correct.

23 Executed on March 11, at Arlington, Texas.

24 

25 \_\_\_\_\_  
26 Matthew Arno  
27  
28

**MATTHEW ARNO, Ph.D., P.E., CHP**

**EDUCATION**

- § Ph.D., Health Physics, Texas A&M University
- § M.S., Nuclear Engineering, Massachusetts Institute of Technology
- § B.S., Nuclear Engineering, Massachusetts Institute of Technology

**CERTIFICATIONS**

- § Certified Health Physicist
- § Professional Engineer, State of Texas license # 94411

**EXPERIENCE**

**January 2001 - present**

**Vice-President, Owner, Principal Health Physicist, Foxfire Scientific, Inc.**

- § Provide support for environmental remediation of mining and milling sites. Duties include health and safety plan development, personnel monitoring and dose assessment, environmental sampling and monitoring work plan development for air, water, and soil, risk communicator and resource for public meetings and stakeholder working group, and risk assessment and evaluation. Sites include the Yerington copper mine, Mabel-New Superior uranium mine, Rare Metals uranium mill, DOE-St. Louis thorium processing facility, and Alcoa East St. Louis bauxite mill.
- § Conduct radiation health and safety program development and auditing for NORM, TENORM, medical, and industrial radioactive material users. Industries include government, oil & gas production, metals mining & milling, and health care industry.
- § Member of team performing dose reconstructions for the Energy Employees Occupational Illness Compensation Program Act. Duties include coordination of subcontract staff, performance of dose reconstructions from occupationally-related internal, external and environmental sources, member of co-worker data analysis group performing statistical studies of worker dosimetry data for extrapolation to unmonitored workers.
- § Performed dose evaluation of waste casks at Barnwell, South Carolina waste repository. Monte-Carlo models were constructed using MCNP to evaluate the dose to workers from waste casks. Various scenarios were evaluated to assess the impact of varying cask placement arrangements, interstitial fill strategies, interim capping approaches, and the use of berms around the disposal cell. Direct radiation and sky-shine contributions to worker doses were assessed.
- § Perform computer modeling of radiation transport, shielding, and dosimetry, including direct exposure, skyshine and environmental transport and uptake. Both deterministic and probabilistic computer codes used including Microshield, MCNP, RESRAD, Hotspot, Crystal Ball, and IMBA.
- § Perform radiation dose assessments and retrospective radiation dose reconstructions in support of litigation. Responsibilities include reconstructing time and motion studies of potentially exposed individuals; determination and reconstruction of source terms for various internal and external exposure pathways; calculation of doses from inhalation, ingestion, external exposure, and radon inhalation for specific commitment period and

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specific affected organs; communication of results of studies in both written reports and oral deposition/testimony as required.

- § Provide professional development and training classes. Courses taught include 4-week Principles of Health Physics comprehensive training course, 40-hour Radiation Safety Officer training, teaching radiation fundamentals workshops for educators, public education and outreach sessions, radiation worker training from awareness level to health physics technician level.

**December 2002 - June 2004**

**Visiting Assistant Professor, Texas A&M Univ., Dept. of Nuclear Engineering**

- § Instructor for NUEN 402, Radiation Detection and Isotope Technology Laboratory Course. This course covers the theory and application of all types of radiation detectors from the fundamentals of radiation interactions through the particular theory and design of different detectors and their use and application. Duties included independently preparing lecture materials and conducting lectures, preparing and conducting labs, preparing and grading tests, quizzes, homeworks, lab reports, and term projects.
- § Instructor for NUEN 476, Environmental Radiation Measurement Laboratory course. This course covers low- and operational-level environmental radiation measurement in the nuclear power, weapons complex, medical, and waste disposal/remediation venues. Topics include: counting room setup, applied counting statistics, sample acquisition and preparation, chemical and radiological analyses, radon measurement, trace element analyses, environmental and occupational radiation field/contamination assessment, radiological accident response, gross alpha and beta determination, sample preparation for chemical separation of elements for alpha and beta counting. Duties included independently preparing lecture materials and conducting lectures, preparing and conducting labs, preparing and grading tests, quizzes, homeworks, and lab reports.
- § Investigator on research grant performing testing and sampling of radioactive dust generation, atmospheric dispersion, and doses from cleaning of oil field pipes using the dry rattling process.
- § Investigator on research grant to develop Screening Dose Conversion Factors (SCDFs) to estimate acute radiation inhalation exposures from external dose rate measurements using commonly available radiation detection instrumentation.

**September 1999 - December 2002**

**Graduate Teaching/Research Asst., Texas A&M Univ., Dept. of Nuclear Engineering**

- § Ph.D. research consisted of conducting a probabilistic dose assessment for an Assured Isolation Facility (AIF) for low-level radioactive waste in Texas. Dose assessment analyzed worker and public doses during normal conditions and public doses from accident conditions. Radiation skyshine and streaming were modeled using MCNP to accurately account for complex geometries. An MCNP model of an array of Class C waste containers, interior shielding room, exterior Class A and B waste room, access hallways, and building superstructure was modeled to assess dose inside the various rooms, hallway, building interior and exterior, various site locations, and site perimeter. Recommendations for changes to the building design were developed. Plume code

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analyses of releases using HOSPOT were performed to consider all combinations of meteorological conditions to determine the probability of receiving a given dose at any location (including local cities) as a result of an accident.

- § Instructor for 5-week Fundamentals of Health Physics course conducted in 2001 and 2002, and 2004 by Texas A&M University for Texas Bureau of Radiation Control personnel.
- § Instructor for 4-week Fundamentals of Health Physics course conducted in 2005 and 2006 by Baylor College of Medicine for NRC Agreement State regulatory personnel.
- § Instructor for 40-hour RSO courses conducted by Texas A&M University in 2000 and 2001. This course is designed to provide the basic training needed to be an RSO on radioactive materials licenses and covers radiation interactions with matter, radiation detection and dosimetry, shielding, Texas and NRC regulations, and auditing fundamentals.
- § Teaching Assistant for Nuclear Detection & Isotope Technology lab class (NUEN 402), Environmental Nuclear Engineering class (NUEN 475), and Radiological Safety class (NUEN 409). Duties included lecturing, preparing and grading tests, homework assignments, and projects.

**September 1994 - August 1999**

**Nuclear Safety Analysis Engineer, United States Enrichment Corporation,  
Paducah Gaseous Diffusion Plant**

- § Trained in the use of the Scale/Keno Monte-Carlo code for use in performing criticality safety assessments. Performed numerous evaluations and reviews of criticality safety evaluations in support of routine operations and as part of Paducah's effort to increase its maximum uranium enrichment percentage capability.
- § Project Manager and Lead Engineer for a \$700,000 project to develop a new Safety Analysis Report (SAR) to replace the 20+ year old SAR for the Paducah Tiger overpack used to transport UF<sub>6</sub> cylinders. The new SAR updated the safety documentation to meet current regulatory requirements in support of 10 CFR 71 recertification. Received bonus award for timely completion of this project.
- § Project Manager and Lead Engineer for a \$400,000 project to implement the OSHA 29 CFR 1910.119 Process Safety Management of Highly Hazardous Chemicals standard for the plant, including development of hazard analyses, configuration management and mechanical integrity/ preventive maintenance programs. Developed and wrote procedures implementing these requirements.
- § Voting member of the Nuclear Safety Subcommittee of the Plant Operating Review Committee tasked with reviewing all changes to the facility Safety Analysis Report and nuclear criticality safety evaluations.
- § Safety Analysis Report chapter author and subject matter expert during development of an initial Safety Analysis Report for NRC certification of the plant under 10 CFR 76. Facilitated the transition of regulatory oversight from the U. S. DOE to the NRC.
- § Received Lockheed Martin Award of Excellence for exceptional leadership and performance as part of a team formed to provide shift personnel with in-the-field

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- assistance in compliance with Technical Safety Requirements (TSRs, similar to power plant Technical Specifications) during transition to NRC regulatory oversight.
- § Performed plant hazard analyses including determination of credible accident scenarios; development of potential source terms and consequences; development, modification, and verification and validation of plume code models; mathematical and computer modeling of plant behavior in accident scenarios; and determination of preventive and mitigative measures in support of SAR development, plant modifications, and as-found conditions.
  - § Qualified as a senior technical reviewer of USQ Determinations, Operability Evaluations, and Justifications for Continued Operations. Authored several hundred USQ determinations (as required by 10 CFR 76.68, which is similar to 10 CFR 50.59) on a variety of issues including procedure changes, as-found conditions, accident analysis updates, and SAR revisions. Also authored approximately 5 each JCOs and Operability Evaluations on as-found conditions that conflicted with the SAR, TSRs, or other regulatory commitments.
  - § Interfaced directly with the NRC Resident Inspectors and NRC staff on a weekly basis in response to technical questions on SAR analyses, USQ Determinations, JCOs, and plant operations. The Nuclear Safety Analysis department was responsible for the preparation and maintenance of the accident analysis contained in the plant SAR and the TSRs and thus was a main point of contact for the resident inspectors and inspection team members with questions regarding the SAR and TSRs.
  - § Served as procedure reviewer for the Nuclear Safety Analysis department during site-wide project to generically upgrade all procedures and as part of the NRC certification reviewing over 2000 procedures over a three-year period.
  - § Member of multiple engineering design teams for modifications to safety-related equipment. Reviewed and approved mechanical and electrical engineering drawings and schematics. Assisted with development of new and revised procedures related to the modifications. Performed computer modeling and simulation of system behavior during postulated accident scenarios.

### PUBLICATIONS

- § Arno MG. Radiation Protection. In: Kok KD, ed. Nuclear Engineering Handbook. Boca Raton, FL: CRC Press; 2009: 609-640.
- § Arno MG, Arno JK, Berry RO, Halter DA, Hamilton IS, Radiological Characterization of a Copper/Cobalt Mining & Milling Site. Proceedings of the 12<sup>th</sup> International Conference on Environmental Remediation and Radioactive Waste Management. Liverpool, England, October, 2009.
- § Hamilton IS, Berry RO, Arno MG, Fruchtnicht EH, Radiological Assessment of Petroleum Pipe Scale Waste Streams from Dry-Rattling Operations. Proceedings of the 12<sup>th</sup> International Conference on Environmental Remediation and Radioactive Waste Management. Liverpool, England, October, 2009.
- § Hamilton IS, Halter DA, Arno MG, Berry RO, Characterization of NORM Sources in Petroleum Coke Calcining Processes. Proceedings of the 12<sup>th</sup> International Conference on Environmental Remediation and Radioactive Waste Management. Liverpool, England, October, 2009.

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- § Berry RO, Cezeaux JR, Hamilton IS, Arno MG, An Overview of a Radiological Assessment from Oil Filed Pipe Cleaning Operations, Waste Management 2006 paper.
- § Hamilton IS, Arno MG, Rock JC, Berry RO, Poston JW, Cezeaux JR, Park JM. Radiological assessment of petroleum pipe scale and pipe rattling operations. Health Phys 87(4):382-396. 2004.
- § Arno MG, Kercher J, Cederwall R, Loosmore G. Extension of NCRP 129 to Short-lived Radionuclides. Health Phys 87(2):136-150. 2004.
- § Arno MG, Hamilton IS. Radiation Streaming and Skyshine Evaluation for a Proposed Low-level Radioactive Waste Assured Isolation Facility. Health Phys 85(4):494-499. 2003.

### PRESENTATIONS

- § ARadiation Streaming and Skyshine Assessment for a LLW Assured Isolation Facility,@ presented June 19, 2002 at the American Radiation Safety Conference and Exposition (Health Physics Society Annual Meeting).
- § ADose and Fluence Analysis of a Dense Plasma Focus Facility at Texas A&M University,@ presented at the 2001 American Radiation Safety Conference and Exposition (Health Physics Society Annual Meeting).
- § Presenter for the South Texas Chapter of the Health Physics Society Science Teacher Workshops. Conducted over 10 8-hour Science Teacher Workshops presenting modules concerning AFundamentals of Radiation,@ ARadiation and Everyday Life,@ APrinciples of Health Physics,@ ARadiological Health,@ and AWaste Management.@
- § Recruiter for Texas A&M University Nuclear Engineering Department. Traveled to many high schools throughout Texas speaking to science and math classes about Nuclear Engineering and Radiological Health Engineering.

### PROFESSIONAL TRAINING AND COMPUTER CODES

- § Qualified user of HG/UF<sub>6</sub> System suite of dispersion/plume codes, IRRAS<sup>TM</sup> Fault Tree/Event Tree program, Scale/Keno, MCNP, Microshield, and HOTSPOT.
- § Trained in Taproot<sup>TM</sup> incident investigation/root cause determination, Kepner-Tregoe problem solving/incident investigation, Management Oversight Risk Tree (MORT), and Total Quality Management (TQM).
- § Possessed DOE AL@ security clearance (inactive) and trained as an Authorized Derivative Classifier (inactive).
- § Familiar with WordPerfect Office, MSOffice.

### MEMBERSHIPS AND HONORS

- § Health Physics Society Robert S. Landauer Fellow.
- § Department of Energy Office of Civilian Radioactive Waste Management Fellow.
- § Eagle Scout.
- § Member, American Nuclear Society.
- § Member, Health Physics Society.
- § Member, National Society of Professional Engineers
- § Treasurer, North Texas Chapter of the Health Physics Society

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