

Meeting Date: August 22, 2018  
Staff Contact: Diane Agnew, Water Quality Hydrologist

**TITLE:** **C-18-22 – Appointment of John Pietz to the Water Protection Advisory Board**

**ACTION:** **Recommend Approval**

**SUMMARY:**

Albuquerque Bernalillo County Water Utility Authority (Water Authority) staff request the appointment of Mr. John Pietz to the Water Protection Advisory Board (WPAB) to serve a three year term as one of two of the Water Authority's appointees on the board.

The purpose of the WPAB is to study and advise the Water Authority, City and County on surface and groundwater protection concerns, oversee the implementation of the Water Quality Protection Policy and Action Plan, and assist with the development of policies and strategies necessary to enhance protection of surface and groundwater quality in the Albuquerque Basin.

Mr. Pietz has had diverse professional experiences in environmental remediation and water resources activities, including environmental investigations and cleanups, water treatment system design, and other hydrogeology projects.

Mr. Pietz is a registered professional engineer in New Mexico and received a Bachelor of Science in Chemistry from the University of Minnesota and Master of Science in Chemical Engineering from the University of New Mexico. He is a member of the National Society of Professional Engineers and the American Institute of Chemical Engineers.

**FISCAL IMPACT:**

None

# ***John M. Pietz, PE***

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## ***Professional Qualifications***

Mr. Pietz is a registered professional chemical engineer with 32 years of chemical and environmental engineering experience including project management, construction management, site assessments, groundwater modeling, corrective measure studies, feasibility studies, design and operation of groundwater and soil remediation systems, preparation of pollution prevention and waste minimization plans, and risk assessments. He has worked with a variety of contaminants including petroleum and chlorinated hydrocarbons, and explosives.

## ***Education***

M.S. Chemical Engineering, University of New Mexico; 1984  
B.S. Chemistry, University of Minnesota; 1980

## ***Registrations/Certifications***

Registered Professional Engineer, State of New Mexico

## ***Experience and Background***

2009 – ***Senior Engineer, Trihydro Corporation, Laramie, Wyoming.***

Present

- Senior Engineer for the design and installation of a soil vapor extraction (SVE) system for a natural gas condensate site in Colorado for Anadarko Petroleum Corporation. Conducted SVE pilot test, developed conceptual design in collaboration with Anadarko engineers and local operations personnel, and currently designing full-scale system. System will use an internal combustion engine for the initial phase of SVE operation. Site factors include constraints of an operating compressor station, and lack of power.
- Project manager and senior engineer for installation of 69 air sparge (AS) wells at a natural gas condensate release site in the San Juan Basin of northwest New Mexico. Site is located in a high permeability channel, and the benzene plume extended nearly 1000 ft towards the San Juan River and several private drinking water wells. As a result of five years of AS system operation, all site wells have attained groundwater standards, and closure is expected.
- Senior engineer for the design of an AS/biosparge system at a petroleum terminal in Rock Springs Wyoming. Developed design drawings, specifications, and bid documents. System consists of 10 AS and 7 SVE wells.
- Project manager for the design of a hot water flushing system for the removal of bunker oil beneath a historical school house in Washington State. Developed plans,

specifications, and bid documents. Supported procurement, submittal review, construction and O&M.

- Senior Engineer for studying the feasibility of waste water evaporation and recycle at a Wyoming refinery.
- Senior Engineer for the design of a low pH groundwater extraction and treatment system for a Wyoming refinery. Developed design basis, treatability test plan, and conducted treatability testing. Developed design report, design drawings and specifications.
- Senior engineer for the design of an LNAPL recovery system for an active refinery in Texas, including plans and specifications per refinery standards.

1994–2009 ***Engineering Manager/Project Manager, Shaw Environmental, Inc, Albuquerque.***

- Project manager for the Texaco South Valley terminal O&M consisting of 7 groundwater recovery wells, 5 injection wells, 12 air sparge wells and 35 soil venting wells, two 2,000 cfm catalytic oxidation units, chemical sequestering and low profile air stripping. Project included the design, installation and startup of a dual-phase extraction system.
- Project manager for a RFI/CMS at LANL TA-16. Contaminants include high explosives, barium, and perchlorate. Remedial alternatives include excavation, groundwater recovery and treatment, storm water filters, and permeable reactive barriers.
- Project engineer for the design of an SVE system for a carbon tetrachloride plume at Ft. Ord, Monterey, California. Developed specifications and bid documents. Conducted SVE modeling, designed pipe layouts, assisted with startup.
- Senior engineer for a due diligence audit at a manufacturing facility in Las Cruces, New Mexico.
- Senior engineer for a compliance audit at a trucking facility in Albuquerque. Conducted a site visit, interviewed lessee, documented site conditions, and wrote report.
- Project manager/design engineer for the design, construction and operation and maintenance for a 300 gpm public water supply treatment system and in situ bioremediation system in Santa Fe. Conducted a corrective measure study on options for groundwater recovery and treatment. The preferred option consists of pH

adjustment, air stripping, solids settling/filtration, carbon adsorption and chlorination/fluoridation.

- Project manager for remediation system design and groundwater monitoring and sampling at manufacturing site in Salt Lake City, Utah. Designed and installed a dual-phase extraction system for chlorinated hydrocarbons.
- Project manager/project engineer for City of Albuquerque former Los Angeles Landfill (Balloon Fiesta Park) investigation and remediation, including soil vapor surveys, boring/monitoring well installation, aquifer testing, corrective measure study, remediation system design, installation and operation and maintenance, and the design, installation and O&M of a 1,200 cfm landfill gas extraction system.
- Remedial action plan/corrective measure study of MTBE remediation options at the former Texaco South Valley terminal. Options included onsite and offsite groundwater pump and treat, source remediation using dual-phase air/water extraction, and natural attenuation. The preferred alternative, approved by the agency, was dual phase extraction of the source area.
- Project engineer for a corrective measure study involving options for treatment of soil and groundwater for a former hazardous waste landfill in California. Selected final option and conducted draft and final design of an SVE and groundwater treatment system.
- Senior engineer for Chevron terminal remediation, including soil vapor extraction and bioventing. Reviewed bioventing test procedures and results. Developed closure plan in accordance with negotiated agreement.
- Senior test engineer for the commissioning of a LANL nuclear facility for the decontamination and size reduction of gloveboxes and other components. Co-authored test plan and conducted testing of HVAC and other critical systems.
- Senior engineer for the risk assessment of a diesel release at Los Alamos National Laboratory.
- Senior engineer for a pollution prevention opportunity assessment and feasibility study conducted for the F-Area groundwater treatment plant, Savannah River Site. Developed and evaluated options for reducing waste and sludge generation.
- Senior engineer and team member for a pollution prevention opportunity assessment conducted for the Hanford site D&D program.

- Project manager/design engineer for the design, installation and operations and maintenance of a state-lead UST site.
- Project test engineer for the VACIS LSDDP project at Los Alamos National Laboratory involving gamma ray imaging of large FRP crates. Developed a test plan, conducted field testing, and wrote a summary report.
- Project test engineer for the MCS LSDDP project at Los Alamos National Laboratory involving x-ray imaging of large FRP crates. Developed a test plan, conducted field testing, and wrote a summary report.
- Senior engineer for a LSDDP technology demonstration project involving a removable coating decontamination system at Nuclear Fuel Services, Erwin, Tennessee
- Project engineer for the Megatech Plunging Blade Cutter LSDDP project involving testing of a hydraulic cutting blade for shearing of metal pipes and support structures. The baseline technology consisted of a reciprocating saw. Supervised cost estimating and wrote a summary report.
- Senior engineer for the development of functional operational requirements and design criteria for the TA-50 Radioactive Liquid Waste Facility (LANL) under the Cerro Grande Fire Risk Mitigation Project.
- Senior engineer for an options analysis of HEPA filter volume reduction TA-54, LANL.
- Senior engineer for the conceptual design and cost estimate of a water treatment evaporator system for accelerator cooling water treatment at Los Alamos National Laboratory. Contaminants included beryllium-7, cobalt-60 and tritium.
- Treatment system design task manager for the Sandia National Laboratory RCRA CAMU soil remediation project. Selected RCRA treatment technologies for waste streams. Designed staging areas for implementation of thermal desorption, stabilization and soil washing. Developed engineering drawings.
- Senior engineer for the design and cost estimate of a data acquisition system at Sandia National Laboratory
- Senior engineer for Remedial Action Plan development for clean-up of drilling sludges at a DOE site in western Colorado. Conducted feasibility study/corrective measure study of excavation and treatment options, including fly ash stabilization and on site centrifugation.

- Professional engineer review for Title II design of a waste effluent handling system for Los Alamos National Laboratory. Reviewed P&IDs, process flow diagrams and piping isometrics.
- Senior engineer for Part B modification for a waste water cementation unit for Los Alamos National Laboratory. Developed P&IDs, process flow diagrams and piping isometrics.
- Professional engineering review of Los Alamos National Laboratory TA50 waste water treatment plant modifications including reverse osmosis, microfiltration, centrifugal filtration unit operations.

1989–1994 ***Office Manager/Senior Project Engineer, IT Corporation, Massachusetts.*** Senior Engineer and Office Manager for staff of 15 engineers and geologists. Responsible for office financial performance and business development. Managed projects in the areas of site investigation, risk assessment, remediation system design installation and operation and maintenance, litigation support, pollution prevention and air permitting. Experience areas include:

#### Groundwater and Soil Remediation

- Mobil Oil Corporation/Exxon Company, USA - New England - Conducted dewatering for UST replacement activities at 11 service stations. Installed dewatering wells for depression of groundwater and product removal. Treated recovered groundwater using activated carbon or air stripping. Obtained necessary NPDES permits for discharge of treated water. Wrote summary reports.
- Mobil Oil Corporation, New England - Designed, installed and operated over 15 soil vapor extraction systems at UST sites. Conducted Phase III Corrective Measure Studies at over fifteen sites. Offgas control systems consisted of activated carbon, catalytic oxidation using natural gas or electric fired units, or direct discharge. Conducted all related permitting and reporting.
- Exxon Company, USA, Massachusetts - Designed, installed and operated 3 soil vapor extraction/groundwater recovery systems at UST sites. Conducted all permitting and regulatory interface.
- Mobil Oil Corporation, New England - Designed, installed and operated over 20 groundwater/product recovery systems. Conducted groundwater modeling in support of design. Treatment technologies included activated carbon and air stripping. Product recovery technologies included filter scavengers and direct pumping. Conducted all related permitting and reporting.

- Mobil Oil Corporation, Sudbury, MA - Designed installed and operated an in situ aquifer bioremediation system. System consisted of 8 recovery wells, air stripping, addition of nutrients and hydrogen peroxide, followed by infiltration.
- Yellow Freight, Milford, CT - Performed operation and maintenance of IT's patented Biofast soil bioremediation cell for remediation of a diesel release. Evaluated data on cell performance, including O2/CO2 data. Responsible for monthly O&M.
- Project Engineer for jet fuel soil removal project involving demolition of a runway fueling station and excavation of 4,000 yards of jet fuel contaminated soil at Fort Devens Massachusetts. Soil was sent to asphalt batching for recycle. Project included backfilling to geotechnical specifications, slope maintenance and site restoration.
- Varian, Associates, Beverly MA - Performed design, pilot testing and construction of groundwater treatment plant for 50 gpm groundwater/DNAPL recovery system consisting of 6 recovery wells. Conducted corrective measure/feasibility study to identify the best treatment options. Conducted system evaluation and mass balance of old system consisting of tower air stripper with activated carbon offgas control. Conducted pilot tests of low profile air stripper and on-site carbon regeneration system. System modifications included slant rib coalescor for DNAPL settling, pH adjustment, two low profile air strippers in series with regenerable carbon offgas control of first unit and direct discharge of polishing unit. Obtained all necessary regulatory approvals, including groundwater discharge permit and air discharge permit.
- United States Air Force Installation Restoration Program, Pease Air Force Base, Portsmouth, NH - Provided groundwater treatment plant design support, excavation plan development support, permitting support and logistics support for excavation and relocation of waste, soil and sediments from landfills 2, 4, and 5. Water treatment consisted of metals precipitation, air stripping and carbon adsorption.
- U.S. Army Corps of Engineers, Ft. Devens, Massachusetts - Designed, installed and operated a soil vapor extraction system for a PCE release. System consists of 5 SVE wells, 5 piezometers and carbon adsorption. Performed SVE field pilot test and data interpretation. Conducted regulatory negotiations, wrote an installation report and operations and maintenance manual.
- Buckeye Pipeline, Ludlow MA - Designed, installed and operated single well groundwater/product recovery system for recovery of jet fuel.
- Unocal Chemical Company, East Providence, RI - Operated a product recovery system consisting of a filter scavenger system for recovery of LNAPL mineral spirits.

- US Army Corp of Engineers, Waltham, MA - Managed operation and maintenance activities for 500 gpm groundwater treatment plant at Baird-McGuire Superfund site. Provided 24-hour staffing support including operators and plant foreman. Unit operations consisted of groundwater recovery, pH adjustment, metals precipitation, sludge management and carbon adsorption.
- Connecticut DPW, Colchester, Connecticut - Provided design modifications, installation, and operation and maintenance for a two phase air/water vacuum recovery system consisting of 12 recovery wells, liquid-ring vacuum pump, and air stripping.
- Kontro Pump/Sunstrand Corporation, Orange, MA - Conducted fuel oil tank removal and replacement activities. Replaced UST with a 2000 gal AST. Designed tank pad area in accordance with client's specifications.

#### Site Investigations/Risk Assessments

- Mobil Oil Corporation, New England - Project Manager for over 25 Phase I preliminary site investigations and 10 Phase II comprehensive site investigations in New England. Projects included soil boring installation, monitoring well installation, groundwater gauging and sampling, aquifer testing, report writing.
- Environmental consultant for Mobil for UST removal and replacement on 15 service station sites. Conducted soil sampling, UST removal documentation, soil disposal management.
- Mobil Oil Corporation, New England - Conducted 10 risk assessments at UST sites. Exposure pathways included vapor infiltration, soil/groundwater dermal contact, drinking water, and consumption of fruits and vegetables. Developed spreadsheet models for calculation of exposure point concentrations and absorbed doses. Closed 8 sites using risk assessment analysis in accordance with state regulations.
- Duncan Galvanizing, Everett, MA - Conducted comprehensive site investigation and risk assessment for zinc, cadmium, arsenic and nickel at a galvanizing facility. Exposure pathways consisted of ingestion of fish and shellfish, and soil/groundwater dermal contact. Conducted groundwater flow and solute transport modeling using AT123D.
- Northrop Corporation, Norwood, MA - Performed Phase II comprehensive site assessment and risk assessment for a site with TCA, DCE. Evaluated site hydrogeological data. Wrote Phase II report. On the basis of Phase II report, a no further action alternative was selected.

- Unocal Chemicals, East Providence, RI - Performed preliminary site investigation using soil vapor survey, boring/well installation, and tidal survey for LNAPL site. Wrote a summary report.
- Exxon Company, USA, South Portland, ME - Performed a site investigation at an abandoned oil terminal using boring/well installation, groundwater gauging/tidal survey, and a soil vapor survey. Wrote a summary report.
- Kontro Pump/Sunstrand Corporation, Orange, MA - Conducted a preliminary site assessment using indoor/outdoor borings and surface soil sampling. Wrote a summary report.
- Varian, Associates, Inc, Beverly, MA - Designed and conducted a field investigation for a DNAPL site involving a geophysical survey, soil gas surveys, borings/monitoring well installation, groundwater monitoring and sampling and stream gauging. Developed a site conceptual model. Co-authored a site investigation report.
- Buckeye Pipeline, Ludlow, MA - Designed and conducted a field investigation to determine nature and extent of petroleum at a pipeline terminal. Wrote a summary report. Developed a scope of work for the site risk assessment.

#### Air Permitting, Toxic Use Reduction, Pollution Prevention

- Conducted air discharge permitting in support of groundwater and soil remediation systems. Permitted activated carbon units, regenerable carbon units, air strippers and catalytic oxidation units. Conducted SCREEN modeling in support of direct discharge permits.
- Lilly Manufacturing, Templeton, MA - Conducted Source Registration evaluation and Clean Air Act Amendment permitting for a paint and coatings manufacturer. Plant evaluation was complicated by use of batch processing and multiple product line.
- Lilly Manufacturing, Templeton, MA - Conducted Toxic Use Reduction Plan activities in accordance with Massachusetts regulations at a paint and coating manufacturer. Identified options include use of water-based coatings, and solvent recycling.
- Browning Ferris Industries, New England - Provided professional engineer review of over 25 storm water pollution prevention plans and spill prevention and control plans.

#### Litigation Support

- Mobil Oil Corporation, Massachusetts - Served as expert witness for two cases involving groundwater contamination and vapor infiltration into occupied structures.

Designed field investigations in support of discovery. Wrote expert opinions on hydrogeology/contaminant transport.

1986–1989 **Project Engineer, IT Corporation, Albuquerque, New Mexico.** Developed flow and transport models including development of coupled fluid flow and rock mechanics models for a proposed nuclear waste repository. Utilized groundwater modeling for groundwater recovery system design for commercial clients. Provided materials and chemical compatibility expertise for listed wastes for a nuclear waste repository. Developed three dimensional flow and transport models for the deep well injection permitting process for three companies in southeast Texas. Other projects include technical consulting on groundwater modeling projects in California, Colorado, Texas, Ohio and Washington.

1984–1986 **Staff Scientist, Los Alamos National Laboratory, Los Alamos, New Mexico.** Production/research supervisor for the recovery of special nuclear materials from scraps and residues at TA55. Supervised process technicians. Conducted waste minimization, materials corrosion studies and chemical compatibility studies.

### **Professional Affiliations**

National Society of Professional Engineers  
American Institute of Chemical Engineers

### **Publications**

Anderson, H., Pietz, J., & Smith, D. 1983. Radionuclide Transport Modeling of Diffusion Cell Experiments Specific to a Backfill Barrier in a Salt Repository. MRS Proceedings, 26, 681.  
doi:10.1557/PROC-26-681

Niou, S., J. Case, J. Pietz, M. Wallace and J. Zurkoff, 1987. Coupled Fluid Flow and Salt Creep Analysis for Room Saturation of a Salt Repository, Proceedings, International Waste Management 87, Tucson, AZ.

Wallace, Michael G., and John Pietz, 1989. A Three Dimensional Flow and Solute Transport Model of a Deep Well Injection System, Proceedings: “Solving Groundwater Problems with Models”, Feb. 7-9, 1989, Indianapolis, Indiana, jointly sponsored by the NWWA and the IGWMC

Wallace, M., J. M. Pietz, B. Lauctes, J. B. Case, and D. E. Deal, 1990. Coupled Fluid-Flow Modeling of Brines Flowing Through Deforming Salt Around the Excavations for the Waste Isolation Pilot Plant (WIPP) in the Permian Salado Formation, Proceedings, Waste Management '90, Tucson, AZ.

Hickmott, D; Reid, K; Pietz, J; Ware, D, 2008. CMI Remedy Selection for HE- and Barium-Contaminated Vadose Zone and Alluvium at LANL. American Geophysical Union, Fall Meeting 2008, abstract #H33G-1100