

OCC Hearing Exhibit 53

TO: Florene Davidson
CC: Mariel Nanasi, Camilla Feibelman, Mike Eisenstat
FR: Norman Norvelle
DT: July 30, 2020
RE: Produced Water Rule Amendment

Hello Florene,

I would like to participate and provide public comments to the meeting you are having today and tomorrow. I did send you a memo on July 27th @10:11 PM requesting to participate but didn't hear back from you. I prefer to send in a written comment rather than giving oral testimony. I worked 20 years in the energy industry (oil & gas & coal) as a senior chemist and over 10 years working as an environmental health and safety scientist. I have done considerable research on produced water as an industrial water treatment chemist.

I don't have an objection about reusing produced water for exploration or production purposes, but I do have an objection of using this water for any other purposes including dust control on dirt roads. Produced water contains chemical additives used in drilling and fracking. Most of these additives are protected from disclosure by trade secret laws. Therefore, what is added is unknown. Also, each formation and well that is drilled is unique. The contents of produced water may be radioactive, contain heavy metals and other toxic materials, such as many undesirable organic compounds. Again, the chemistry of each well is different mostly due to the geological formation. Also, different chemical vendors use different trade secret chemical additives. This water should definitely not be used for agricultural purposes.

Because of the wide variety of chemical contaminants, chemical and radiological analysis would be expensive and probably cost a minimal of \$1000 per set of samples for an individual storage tank. For example, if you have a 10,000-gallon storage tank and did a set of samples for \$1000, then the cost of this water would be \$100 per thousand gallons. At this cost reuse of this water would be cost prohibitive for any purposes.

Also, I believe portable (drinking) quality water should not be used for exploration and production purposes. New Mexico has plenty of saline water, not suitable for drinking, that can be used for most oil & gas purposes. Some of this water may require minimal treatment or addition of extra additives to control scale and deposition, but this is more cost effective than trying to clean up produced water.

My resume is attached for additional information concerning my knowledge and experience.

Norman Norvelle, BS, MS, Registered Environmental Health Scientist Emeritus.

CURRICULUM VITAE

NORMAN R. NORVELLE

3510 Kayenta Drive
Farmington, NM 87402-5232
Phone: (505) 327-5910
Cell: (505) 330-4213
Email: norvellehome@msn.com

Over forty years of technical, regulatory, and management experience with proved strengths in problem solving, communications, and principle-centered leadership. Skills and responsibilities included, but were not limited to:

- Environmental Scientist, Chemist, & Microbiologist
- Water & Wastewater Treatment, Design and Operations
- Environmental & Chemical Research and Development
- Hazardous Materials & Industrial Waste Management
- Environmental/Occupational Health & Safety Trainer
- Laboratory Analysis and Management
- Internal and External Corrosion Control
- Regulatory (EPA, OSHA, DOT) Compliance
- College Instructor & H.S. Science Teacher
- Technical Writing and Operational Procedures

Education

- Secondary Education Certificate, Eastern New Mexico University (E.N.M.U.), 1975.
- Master of Natural Science, (Biology, Chemistry, Physics, & Geology), GPA-3.8, E.N.M.U., 1974.
- Bachelor of Science (Microbiology/Chemistry), Eastern New Mexico University, 1970.
- High School Diploma, Farmington High School, 1964.
- 167 Technical and Management Workshops and Seminars
 - 70 – Environmental, Health, and Safety
 - 38 – Management and Administration
 - 27 – Water and Wastewater Operations
 - 10 – Internal and External Corrosion Control
 - 12 – Technical and Vocational
 - 11 – Computer and Software

Registrations & Certifications

- Registered Environmental Health Specialist/Registered Sanitarian Emeritus, NEHA, 2017-2019.
- Registered Environmental Health Specialist/Registered Sanitarian, Natl. Environ. Hlth. Assoc. 2009-2017.
- NM Certified Level IV (Class A) Water and Level IV (Class A) Wastewater Operator, 1989 to Present.
- Certified Pool/Spa Inspector, National Swimming Pool foundation, 2010-2012.
- Certified Pool/Spa Operator, National Swimming Pool Foundation, 2009-2012.
- OSHA 500 Trainers (Construction), OSHA Training Institute – TEEX, 2007.
- OSHA 501 Trainers (General Industry), OSHA Training Institute – RMEC, 2004 & TEEX, 2007.
- Secondary Education License #297074, 7-12 Science Endorsement, State of NM, 2003-06.
- Certified Environmental Trainer, Certified in Occupational Health & Safety, Mgt. & Transportation of Hazardous Materials & Waste, Water and Wastewater Treatment, Certification # 93-023, 1994-99.
- Occupational Health & Safety Technologist (BCSP/AIHI), Certification # 1254, 1994-99.
- Petroleum Education Council (PEC) Certified Trainer, 1995 and 2004.
- Certified Hazardous Materials Manager, Certification # 2727, 1992-99.
- Registered Hazardous Substances Professional, Certification # HW 234, 1992-97.
- Registered Environmental Manager (REM), Certification # 3046, 1992-96.
- OSHA Health & Safety (HAZWOPER) 40-Hour Certification with Supervisor Certification, 1990-2000.

Affiliations

- New Mexico Environment Dept. Gold King Mine - Citizens Advisory Committee, Member, 2015 to 2018.
- BLM Farmington District Resource Advisory Council (RAC), Member, 2013 to 2016.
- San Juan Watershed Group, Participant and Volunteer, 2010 to Present.
- American Society of Safety Engineers, (Professional Member) and Secretary, 2003 to 2010 (8 years).
- American Water Works Association, Member, Lifetime Member 1976-Present (40 years).
- New Mexico Water & Wastewater Association, Lifetime Member, 1971-Present (45 years).
- NACE International (National Association of Corrosion Engineers), Section Trustee, Chairman, Vice-Chairman, Secretary, Treasurer, & Regional Conference Secretary, Member, 1980-2002 (22 years).
- National Environmental Training Association, Member, 1993-1999 (6 years).
- American Industrial Hygiene Association, Member, 1993-98 (5 years).
- National Environmental Health Association, Member, 1992-97, 2008 to Present (10 years).
- San Juan County Local Emergency Planning Committee, Member, (LEPC), 1993-6, 2003-5 (6 years).
- American Chemical Society, Member, 1979-1998 (19 years).
- Boy Scouts of America, Life Scout, Assistant Scoutmaster, Leader, 1956-63, and 1983-93 (18 years).

Employment History

- Retired, April 1, 2012
- New Mexico Environment Department, October 08 to March 2012, Environmental Scientist Staff Manager.
- New Mexico Workers' Compensation Administration, September 03 – October 08. Safety Consultant.
- Water & Power Technologies, Inc. May 03 – September 03. Water Treatment Consultant & Technician.
- David H. Paul, Inc, June 01 – December 02. Senior Water Treatment Consultant and Lead Instructor for San Juan College Industrial Water Treatment Program. Performed instruction and technical assessments related to water treatment, special projects, and element autopsies and design review.
- Lee Acres Water Users Assoc., September 97-May 01 (4 years). Water Utility Manager. Duties included supervision, budgeting, O&M of distribution system and O&M of 1.5-MGD conventional water plant.
- International Training Institute of South Florida, February – September 1997 (8 months). Environmental, Health & Safety Trainer for Army (Department of Defense) at Fort Polk, LA.
- Envirosafety, 1996-2001 (5 years). Owner, Trainer & Consultant – Water treatment, Environmental Health and Safety Regulations, Industrial Chemistry and Microbiology related to the energy industry.
- El Paso Natural Gas Company, 1989-96 (7 years). Senior Chemist, Compliance Engineering Lab Services. Responsible for regional technical support related to, water treatment, water wells & monitor wells, environmental sampling, lab operations, hazardous waste remediation, industrial hygiene monitoring & analysis gas analysis, boiler & cooling water, and process plants. Chemical Hygiene Officer from 1992-96.
- Public Service Co. of NM, 1977-1988 (11½ years). Plant Engineering Chemist III. Performed engineering duties in a chemical discipline including design, estimating, monitoring of construction and maintenance projects. Also, Technical Support Supervisor and Senior Chemist for San Juan Generating Station.
- Sales Associates. Inc., 1976-77, (1 ½ years), Albuquerque. Water Treatment Equipment Sales Manager.
- Hermosa Jr. High School (full-time), 1975-76 (1 year). Teacher, physical sciences (physics/Chemistry).
- San Juan College (part-time), 1976, 1980, 2007- 2008 (Five semesters). Microbiology and Safety Instructor.
- Southern Union Gas Company (Kutz), 1975 (6 months). Mechanic/Welder. Resigned for teaching position.
- Plateau Refinery, 1974 (6 months) Refinery Mechanic. Returned to school to finish teaching certificate.
- NM Dept. of Public Health (NMED), 1970-74 (4 years). Lab Scientist and Public Health Advisor. Performed microbiological and chemical testing of food, milk, water and medical samples. As advisor performed health work encompassing incident, control, and treatment of communicable disease.

Accomplishments & Awards

- **Animas River Environmental Contamination from the Durango Mill Site.** 2016. Presentation given at the “WRRRI Environmental Conditions of the Animas and San Juan Watersheds” Conference at San Juan College.
- **Four Corners Oil & Gas Conference & Exposition.** 1994-96, 2003-2010. Founder, Chairman, and Member.
- **NACE International (National Association of Corrosion Engineers).** Section Trustee (1995-1996), Chairman (1995-94), Vice-Chairman (1993-94), Secretary/Treasurer (1992-94), Regional Conference Secretary (1991), Member (1980-2002, 2004-2006), 25 years.
- **American Water Works Association Lifetime Member Award,** 2006, 30 years.
- **New Mexico Water & Wastewater Association Lifetime Membership Award,** 1997. 30 Years.
- **Double IV Club.** 1989. New Mexico Water & Wastewater Association. Awarded for having obtained both an IV Level Water Operators and IV Level Wastewater Operators Certification.
- **BIO-SX.** 1997. Developed hydrogen sulfide control product for oil & gas industry storage ponds.
- **E. I. C. Award.** 1994. El Paso Natural Gas Company. Developed monitoring and control program for natural gas pipeline microbiologically influenced corrosion and assisted corrosion department with implementation.
- **Removal of Chromium from Water.** 1992. Presentation given at the “5th NM Annual Hazardous Waste Conf.”
- **E. I. C. Award.** 1992. El Paso Natural Gas Company. Developed, implemented, and performed chromate removal and remediation process for 8 plant stations. Saved approximately \$150,000 over contractors.
- **National Scout Jamboree Assistant Scoutmaster.** 1989. Boy Scouts of America.
- **Miracle Wash Antichlor.** 1989. Developed dichlorination product for stone wash jeans industry in El Paso.
- **Boy Scout Woodbadge Award.** 1988. Boy Scouts of America. For leadership and Merit Badge Coordination of District. Assistant Scoutmaster & Webelos Leader, 1983-93.
- **Edison Electric Institute, Chemistry Committee.** Member (1985-88), Alternate (1982-84).
- **Ten-Year Safety Award.** 1988. Public Service Company of New Mexico. Ten years without an accident.
- **Resource Management Award.** 1987. Public Service Company of New Mexico. Developed generic chemical specifications for plant that generated cost savings of \$204,000.
- **Gimmicks & Gadgets Award, 2nd Place.** 1987. American Water Works Association. Invented “Chlorine Leak Detection Bottle” and published article on Chlorine Leak Detection in AWWA Magazine Gimmicks & Gadgets.
- **Special Achievement Award.** 1986. Public Service Company of New Mexico. Developed chlorine safety program and invented “Chlorine Leak Detection Bottle”. Resulted in 50% reduction in accidents
- **Water Utility Technology Advisory Committee.** 1980-85. New Mexico State University (Dona Ana).
- **Pay for Excellence Award.** 1984. Public Service Company of New Mexico. Resolved complex corrosion and water treatment problem of galvanized wet/dry cooling tower, extending the systems life.
- **Pay for Excellence Award.** 1983. Public Service Company of New Mexico. Resolved pretreatment and process chemistry problems in pollution control system. Resulted in helping to achieving zero discharge.
- **Patent (Torma Process).** 1979. Invented process for the Removal of Alumina from Power Plant Fly Ash.
- **John Phillip Sousa Band Award.** 1964. Farmington High School. Outstanding bandsman of the year.

Training & Workshops

Environmental, Health, & Safety - General

- *CDC1202 Environmental Health Training in Emer. Response-Awareness Level*, 8/28/13.
- *Certified Pool/Spa Inspector*, National Swimming Pool Foundation, 03/03/2010.
- *Application of Basics of Inspection and Investigation (FD170)*, IFPTI, 10/6/2009.
- *Inspection Certification Course*, National Assoc. of Wastewater Transporters, 10/22/09.
- *Certified Pool/Spa Operator*, National Swimming Pool Foundation, 08/13/09.
- *ORAU Food Safety Program*, Kaplan Eduneering, 06/17/09.
- *Licensed Aquatic Facility Technician*, American Swimming Pool & Spa Assoc., 04/2009.
- *Pipeline Damage Prevention & Emer. Response*, 4-Corners Prevention Group, 3/11/09.
- *OSHA Course 521 (OSHA Guide to Industrial Hygiene)*, TEEX, 05/23/2008.
- *OSHA Course 501 (General Industry Train-The-Trainer)*, TEEX, 11/09/2007.
- *OSHA Course 2015 (Hazardous Materials)*, TEEX, 10/19/2007.
- *OSHA Course 7845 (Injury & Illness Recordkeeping)*, TEEX, 10/05/2007.
- *OSHA Course 3010 (Excavation, Trenching and Soil Mechanics)*, TEEX, 10/04/2007.
- *OSHA Course 7505 (Intro to Accident Investigation)*, TEEX, 04/03/2007.
- *OSHA Course 500 (Construction Trainer-The-Trainer)*, TEEX, 03/22/07.
- *OSHA PRT300 (Introduction to Oil & Gas (Safety))*, TEEX, 01/18/07.
- *OSHA PRT106 (Hydrogen Sulfide (H₂S) Instructor Development)*, TEEX, 06/13/06.
- *OSHA Course 510 (30 hr. OSHA Construction)*, TEEX, 09/07/05.
- *NM Safe Excavation Program*, NM Public Regulation Commission, 04/05/05.
- *Trenching & Excavation Qualified Person*, Safety Counseling, Inc., 06/09/2005
- *Introduction to Safety Standards for Safety Officers*, USDOL (OTI-OSHA), 04/09/2004
- *OSHA 501 (Trainer Course-General Industry)*, OSHA Training Institute-RMEC, 02/24/04
- *Petroleum Education Council 2003 Instructor Update*, PEC/Premier, 02/09/04.
- *8 Hr. Annual HAZWOPER Refresher*, Intermountain Technical Solution (SJC), 10/28/98.
- *Trenching/Excavation*, San Juan College, 10/15/98
- *Hydrogen Sulfide Safety*, Safety Alliance, Inc., 05/05/98.
- *8 Hr. HAZWOPER Re-certification*, U.S. Dept. of Army, 10/10/97.
- *Environmental Compliance Officer Certification Course*, U.S. Dept. of Army, 4/25/97.
- *8 Hr. Hazardous Waste Operts. And Emergency Response Refresher*, ADC, LTD., 12/4/96.
- *D. O. T. Drug and Alcohol Testing*, Lifecourse, ASSE, Farmington School Bus, 10/22/96.
- *Basic Orientation Train the Trainer Certification*, Petroleum Educ. Council, Inc., 02/22/96.
- *8 Hr. Annual HAZWOPER Refresher*, Front Range College, 04/17/95.
- *Trenching & Excavation Competent Person Training*, FCO&GC, 03/30/95.
- *Confined Space Competent Person Training*, Four Corners Oil & Gas Conf., 03/30/95.
- *Basic Hydrogen Sulfide & Respiratory Protection Training*, EPNG Co., 08/25/94.
- *Environmental Sampling with Emphasis on Soil & Groundwater*, EEE, 08/18/94.
- *SARA Title III Workshop (EPCRA)*, USEPA, 05/12/94.
- *Confined Space Entry*, El Paso Natural Gas Company, 05/11/94.
- *Environmental Regulation Training*, PRC Environmental Training Center, 04/27/94.
- *8 Hr. Annual HAZWOPER Refresher*, Intermountain Technical Solutions, Inc., 04/11/94.
- *Industrial Lead Abatement*, NACE International, 01/14/94.
- *Lead Contractors and Supervisors Training Course*, ADC, LTD, 10/27/93.
- *Design Workshop for Soil & Groundwater Remediation*, University of NM, 07/16/93.
- *Basic Confined Space & Safety*, Energy Industrial, 04/21/93.
- *Fundamental Toxicology & Risk Assessment*, Natl. Environmental Health Assoc., 12/25/92.

- *Hands-on Training with Chlorine Emergency Kit A & B*, Public Service of NM, 10/14/92.
- *Total Encapsulation Chemical Protective Suit*, Public Service of NM, 10/14/92.
- *Registered Hazardous Substances Professional Review Workshop*, NEHA, 06/27/92.
- *Wellhead Protection Programs: Tools for the Navajo Tribe*, USEPA, 05/29/92.
- *Hydrogen Sulfide Safety Training*, Safety International, Inc., 02/04/92.
- *Lockout/Tagout Procedure*, El Paso Natural Gas Company, 11/14/91.
- *Certified Drinking Water Compliance Sampler*, NM Environment Department, 06/21/91.
- *Certified Hazardous Material Management Program*, Oklahoma State University, 04/20/91.
- *SARA Re-certification Training*, Oklahoma State University, 03/22/91.
- *8 Hr. Annual HAZWOPER Refresher*, NM Chap. of Amer. Soc. of Safety Engrs. 02/20/91.
- *Mercury Project QA/QC*, Woodward-Clyde Consultants, 06/01/90.
- *Waste Site Supervisor Training*, Woodward-Clyde Consultants, 05/28/90.
- *40 Hour Basic Health & Safety Training*, Woodward-Clyde Consultants, 05/27/90.
- *Loss Control Management*, The International Safety Academy, 05/07/73.

Environmental, Health & Safety – Laboratory Analysis

- *X – Ray Fluorescence –EDR Analysis*, Tracor Instruments, Austin Texas, 1995.
- *Gas Analysis: BTU Analyzer and Software*, MTI Analytical Instruments, 08/05/91.
- *Basic Principles of Proportional Counting & Gamma Spectroscopy*, Gray, 02/14/92.
- *Laboratory Safety & Health*, American Chemical Society, 02/21/92.
- *NIOSH 582-Asbestos Fiber Sampling & Counting*, McCrone Research Institute, 12/90.
- *Microscopical Identification of Asbestos*, McCrone Research Institute, 09/15/89.
- *Ion Chromatography*, Dionex Corporation, 02/11/83.
- *Wastewater Laboratory Techniques*, New Mexico State University, 01/13/72.
- *Pesticide Analysis with Gas Chromatography*, Perrine Primate Research Institute, 1972.
- *Heavy Metal Analysis with Atomic Absorption Spec.* Perrine Primate Research Inst., 1972.
- *Environmental Control Analytical Techniques*, Eastern New Mexico University, 07/14/72.

Water & Wastewater Operation and Maintenance

- *Treatment of Metal Wastestreams, 4th Ed.* California State University, Sacramento, 12/17.
- *Water Treatment Plant Operation, Vol. 2*, California State University, Sacramento, 08/15.
- *NOWRA A to Z Course*, National Onsite Wastewater Recycling Assoc., 4/27/2011.
- *Installation of Wastewater Treatment Systems-Part II*, NMSU/TX A&M/CIDWT, 2/25/11.
- *Installation of Wastewater Treatment Systems-Part I*, NMSU/TX A&M/CIDWT, 8/27/10.
- *On-Site Operations & Maintenance Service Provider*, NMSU/TX A&M/CIDWT, 7/01/10.
- *Analyzing Wastewater Treatment Systems*, NMSU/TX A&M/CIDWT, 6/19/09.
- *Small Wastewater System O&M I*, California State University, Sacramento, 06/09.
- *On-Site Wastewater O&M*, NMSU/CIDWT/Texas A&M AgriLife Extension, 2/09.
- *Water Treatment Plant Operation, Vol. 1*, California State University, Sacramento, 11/02.
- *Technical O&M Pumps Seminar*, NM Water & Wastewater Assoc., 03/02.
- *Industrial Waste Treatment, Vol.1*, California State University, Sacramento, 11/01.
- *Fire Hydrant Training*, Mueller Company, 03/01/01.
- *Utility Management*, California State University, Sacramento, 02/99.
- *Water Distribution System Operation & Maintenance*, Calif. State Univ. Sacramento, 6/98.
- *Surface Water Treatment Workshop*, Wright Training, 08/15/97.
- *NM Water & Wastewater Assoc. Annual Operators School*, NMW&WWA, 06/13/96.
- *Cooling Water Technology Seminar*, Puchorius & Associates, 05/25/95.
- *Treatment of Metal Wastestreams*, California State University, Sacramento, 12/90.

- *A Regulatory Compliance Seminar-Safe Drinking Water Act*, A.W.W.A., 12/06/89.
- *NM Water & Wastewater Assoc. Annual Operators School*, NMW&WWA, 03/17/89.
- *Industrial Wastewater Pretreatment*, University of Toledo, 09/17/87.
- *Power Industry Technology Exchange Seminar*, Calgon Corporation, 10/25/84.
- *Chlorination Workshop*, American Water Works Association, 06/04/81.
- *Cooling Water Treatment*, McGraw Hill Seminar (Sidney Sussman), 07/23/80.
- *Liberty Bell Corrosion Course-Water Treatment & Technology*, NACE Intl., 09/21/79.
- *Water & Wastewater Operators School*, New Mexico State University, 01/14/77.

Corrosion Control

- *Internal Corrosion Seminar*, Accurate Corrosion Monitoring Company, 07/14/94.
- *Gas Treating Seminar*, Van Waters & Rogers, Inc., (J.P. Herrin), 08/16/90.
- *Materials Selection & Design*, NACE International, 04/90.
- *Corrosion Control Short Course*, NACE International Rocky Mountain Section, 01/20/89.
- *Cathodic Protection-Theory and Data Interpretation*, NACE International, 06/05/88.
- *Corrosion Control by Coatings*, S.G. Pinney & Associates, Inc., 11/19/87.
- *Corrosion Prevention in Oil & Gas Production*, NACE International, 02/01/87.
- *Protective Coatings and Linings*, NACE International, 10/18/85.
- *Corrosion Prevention by Cathodic Protection*, NACE International, 12/23/78.
- *Basic Corrosion Course*, NACE International, 04/28/78.

Management & Administration

- *Fundamentals of Supervision*, NM State Personnel Office, 09/09/09.
- *Labor Workshop Training*, NM State Personnel Office, 6/24/09.
- *FMCS Labor Workshop Facilitator Training*, FMCS, 8/01/07.
- *FMCS Labor Workshop Train-The-Trainer*, FMCS, 9/27/06.
- *Federal Mediation & Conciliation Service Labor Workshop*, FMCS, 10/21/05.
- *Imagine 21-Fast Track to Change*, The Pacific Institute, 07/27/2005.
- *Roles, Relationships and Responsibility*, EPNG Co., 04/15/94.
- *Spanish Language*, One Twelve USA, 09/94.
- *Assessing Employee Performance*, El Paso Natural Gas Company, 04/14/93.
- *Fundamental Skills of Managing People*, El Paso Natural Gas Company, 12/01/92.
- *Training the Trainer*, San Juan College, 04/09/92.
- *Train the Trainers Workshop*, U.N.M /NM Water & Wastewater Assoc., 02/25/92.
- *Effective Leadership*, James R. Schmook, Ph.D., 07/17/91.
- *Management in a Changing Environment*, James R. Schmook, Ph.D., 04/26/90.
- *Performance Management*, El Paso Natural Gas Company, 03/08/90.
- *Putting People First*, Time Management International, 03/08/90.
- *You're Not Communicating*, San Juan College, 11/05/88.
- *Wood Badge Boy Scout Leadership Training*, Boy Scouts of America, 1986-88.
- *Negotiating to Yes*, Wilson Learning Company, 05/13/88.
- *Listening Skills*, Public Service Company of New Mexico, 06/29/87.
- *Writing Strategies*, Professional Training Company, 12/10/86.
- *Management by Responsibility*, Public Service Company of New Mexico, 05/24/85.
- *Impact of Decisions*, Public Service Company of New Mexico, 01/31/85.
- *Time Systems*, Public Service Company of New Mexico, 12/19/84.
- *Managing Change & Stress*, Public Service Company of New Mexico, 12/06/84.
- *Leader Effectiveness Training*, Public Service Company of New Mexico, 05/03/84.

- ***Loss Control Refresher***, Public Service Company of New Mexico, 03/30/84.
- ***Time Management***, Public Service Company of New Mexico, 03/20/84.
- ***Resource Management***, Development Dimensions International, 03/08/84.
- ***Creative Thinking***, Montgomery and Associates, 12/04/83.
- ***Training for Quality (QA-QC)***, Public Service Company of New Mexico, 12/02/83.
- ***Adventures in Attitude***, Montgomery and Associates, 11/28/83.
- ***Management by Responsibility***, Training Systems Inc., 10/06/82.
- ***Managing Interpersonal Relationships***, Wilson Learning, 12/07/81.
- ***Management Development Program***, Public Service Company of New Mexico, 12/06/81.
- ***Maintenance Orders***, Public Service Company of New Mexico, 08/05/81.
- ***Industrial Relations Protocol***, Management Associated Results Company, 05/02/81.
- ***Technical Writing Workshop***, Shipley Associates, 09/18/80.

Computer

- ***Microsoft Publisher 2003, Module I***, San Juan College, 3/17/07.
- ***QuickBooks***, San Juan College, 04/29/98.
- ***Microsoft PowerPoint 3.0 for Windows***, San Juan College, 03/02/95.
- ***Microsoft Intermediate Excel 5.0 for Windows***, San Juan College, 02/27/95.
- ***Microsoft Intermediate Word 6.0 for Windows***, San Juan College, 02/17/95.
- ***Microsoft Excel 5.0 for Windows***, San Juan College, 02/01/95.
- ***Microsoft Word 6.0 for Windows***, San Juan College, 11/15/94.
- ***Microsoft Windows 3.1***, San Juan College, 11/94.
- ***Microsoft PowerPoint 3.0 for Windows***, SKS Enterprises, 08/03/94.
- ***Microsoft Word 6.0 for Windows***, SKS Enterprises, 08/02/94.
- ***Microsoft Windows 3.1***, SKS Enterprises, 08/01/94.

Technical & Vocational

- ***Applied Basic Electronics – DC & AC (Inst. 143)-5 hrs. (A)***, San Juan College, 12/2000.
- ***Industrial Electricity I & II***, Performance Training Associates, Inc., 09/26/2000.
- ***Quality Concrete Workshop***, San Juan College, 10/20/88.
- ***Laymen's Guide to Petroleum***, San Juan College (Tom Dugan), 04/86/83.
- ***Construction Blue Print Reading***, San Juan College, 11/01/83.
- ***Brakes and Brake Systems***, San Juan College, 05/30/73.
- ***Air Conditioning***, San Juan College, 04/10/73.
- ***Engine Rebuilding***, San Juan College, 11/01/72.
- ***Carburetor Tune-up***, San Juan College, 04/19/72.
- ***Welding II***, Eastern New Mexico University, 05/28/71.
- ***Auto Engine Tune-up***, San Juan College, 01/26/70.
- ***Welding I***, Eastern New Mexico University, 05/28/66.

October 3, 2018, 2018