

**Resume
Of
Pierce Chandler**

Attachment 2

Pierce L. Chandler, Jr., P.E.

Mr. Chandler is a consultant in civil engineering, geoscience, and hydrogeology. In a professional career spanning over thirty-five years, he has had extensive experience in the planning, design, and construction of public infrastructure, water resource, electric power generation, mining, and waste management projects. This experience includes over twenty-five dams, fifteen power plants, twenty surface mines, and one hundred waste management facilities. Over the last twenty-five years, his experience has also covered a number of high-profile environmental remediation projects. The majority of his experience is in the state of Texas.

He has provided consulting services to a variety of both private- and public-sector clients including U.S. EPA, U.S. Army Corps of Engineers, U.S. Navy, and the states of Kansas and Texas for various projects in the water resource and waste management areas. He has been retained as an expert witness by U.S. EPA and various other clients – particularly on waste management projects. He was a co-author of the 1998 EPA publication, Evaluation of Subsurface Engineered Barriers at Waste Sites. From 1987 through 1996, he taught graduate level contaminant hydrogeology courses at the University of Texas at Dallas. He currently has pending patent #10/128,157 for an “Enhanced Subtitle D Design Standard Composite Liner.”

Specific Experience

Mr. Chandler has specific experience in the following technical practice areas:

- **Dams** – Mr. Chandler has extensive experience in water resource projects and particularly with respect to earthen dams. He has acquired extensive experience in the siting, design, construction, operation, evaluation, and restoration of dams. These dams have impounded water for flood control, water supply, navigation, and hydroelectric power. Mr. Chandler has had significant professional involvement with over twenty-five large earthen dams. Mr. Chandler has also been involved in underwater inspection as an engineer-diver with both the Corps of Engineers and as a private consultant. A list of representative dam projects is appended to this resume.
- **Waste Management** – Mr. Chandler has extensive experience in all areas and facets of waste management – both hazardous and non-hazardous. This experience covers both investigation and remediation of existing facilities and planning, siting, design, permitting, construction, and operation of new facilities. He has provided consulting services to a variety of private- and public-sector clients on over one hundred waste management projects. These projects have included regional plans, transfer facilities, transportation systems, landfills, site remediation, recycling/reuse facilities, and composting facilities. Representative cross sections of both municipal waste management and hazardous/industrial waste management experience is appended to this resume.
- **Environmental Remediation** – Mr. Chandler has extensive experience in the remediation of a broad spectrum of environmental media –soil, soil gas, groundwater, and surface water. This experience has included planning, investigation, assessment, design, construction, and

monitoring as well as negotiation/coordination with regulatory agencies. Remediation projects have included innovative solutions. A representative cross section of his remediation experience is appended to this resume.

- **Fossil Fuel Electric Power Generation** – Mr. Chandler has supervised field exploration and laboratory testing and provided engineering design and construction QA/QC services for numerous projects. These projects included lignite-fueled steam electric stations, coal ash disposal facilities, cooling water reservoirs (dams), lignite surface mines, and railroads / haulroads. His work also included various studies of coal ash and fly ash as an engineering construction material. Through these various projects, he has extensive knowledge of subsurface conditions in the “lignite belt” of Texas and extensive experience in engineering design and construction for power generation facilities. A representative cross section of his power generation experience is appended to this resume.
- **Water / Wastewater Management** – Mr. Chandler has provided planning, investigation, geotechnical design, materials engineering design, construction QA/QC, and monitoring services for a variety of water and wastewater management projects. A representative cross section of his water/wastewater experience is appended to this resume
- **Coastal and Ocean Engineering Projects** – Mr. Chandler has provided planning, investigation, design, and construction QA/QC services for shore protection, dredging, littoral by-passing, and beach restoration. A representative cross section of his coastal and ocean engineering experience is appended to this resume.

Professional Employment History

Self-Employed Consultant: 1997- Present
Black & Veatch: 1994-1997
PRC Environmental Management: 1993-1994
HDR Engineering: 1990-1993
University of Texas at Dallas, 1987-1996
Harding Lawson Associates: 1987-1990
Trinity Engineering Testing Corporation: 1983-1987
Self-Employed Consultant: 1982-1983
Rone Engineers: 1982-1982
Pekor Pump Company: 1976-1977 (Consultant 1977-1985)
NFS/National Soil Services: 1973-1976, 1977-1982
U.S. Army COE Waterways Experiment Station: 1971-1973
Center for Dredging Studies: 1970-1971
LTV Aerospace Corporation: 1967-1970

Education

M.S., Civil Engineering, Texas A&M University, 1971
B.S., Aerospace Engineering, University of Texas at Arlington, 1967

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Professional

Licensed Professional Engineer, Texas #33368 (1972)
Registered Engineering Firm, Texas #566

Personal

Third-generation, native Texan born in Decatur, Texas. Educated in the Mineral Wells, Texas, public school system. Married to Joan Dawson of Rockwall, Texas. Two daughters. Currently resides / offices in Rockwall.

Affiliations

Society of Mining Engineers (Founding Registered Member)
Tau Beta Pi

Presentations

Wave Transformation of Non-Breaking Waves Passing Over a Submerged Long Shore Bar, Thirteenth International Conference on Coastal Engineering, 1971.

Exploration Techniques for Lignite Mine Development in the Gulf Coast Region, Trinity Section S.M.E., 1981.

Stability Analyses for Excavations and Embankments in the Lignite Areas of Texas, Phillips Coal Company Seminar, 1981.

Metroplex Foundation Problems, Causes and Cures, presented to various realty associations in the DFW area, 1982-1983.

Environmental Regulation in the Mining Industry, Trinity Section S.M.E., 1987.

Geotechnical and Hydrogeologic Aspects of Landfill Design – Landfill Insurance, Texas SWANA seminar, 1990.

Dye Tracer Study Case Histories, Dallas Geological Society, 1994.

Federal New Source Performance Standards and Emission Guidelines for MSWLF's in Texas, APWA International Congress and Exposition, 1995.

Use of Shredded Tire Materials in Landfills, Texas SWANA annual meeting, 1996.

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Appendix I – Representative examples of dam experience (Texas):

1. Brazos River Authority of Texas
Sterling C. Robertson Dam (Lake Limestone)
Siting, geotechnical design, construction supervision and QA/QC, operational monitoring, safety inspections
De Cordova Bend (Lake Granbury)
Geotechnical design for hydroelectric facility, shoreline stability studies
2. Sabine River Authorities of Texas and Louisiana
Toledo Bend Dam and Hydroelectric Facility
Hydrogeologic studies, seismic stability analyses, design and construction of remedial pressure relief system, safety inspections, operational monitoring
Iron Bridge Dam (Lake Tawakoni)
Stability analyses, remedial investigations, operational monitoring, safety inspections
Lake Fork Dam
Geotechnical design, construction supervision and QA/QC
3. San Antonio River Authority of Texas
San Juan Dam
Geotechnical design
4. Texas Utilities
Morgan Creek Dam, Monticello Dam, Twin Oak Dam, Forest Grove Dam, Oak Knoll Dam, Big Brown Dam, and Martin Lake Dam
Siting studies, geotechnical design, construction supervision and QA/QC, operational monitoring, safety inspections, rehabilitation activities
5. Titus County (Texas) Water District
Fort Sherman Dam (Lake Bob Sandlin)
Geotechnical design, construction supervision and QA/QC
Franklin County Dam (Lake Cypress Springs)
Remedial investigations, stability analyses
6. U.S. Army Corps of Engineers
National Dam Safety Inspections (Texas)
Safety inspections of existing dams in the State of Texas
McClellan-Kerr Waterway Locks and Dams (Arkansas)
Safety inspections
7. City of Dallas, Texas
Bachman Lake Dam, White Rock Lake Dam
Remedial investigations, stability analyses, rehabilitation activities
8. Guadalupe – Blanco River Authority
Coletto Creek Dam
Geotechnical design, construction supervision and QA/QC

Appendix II – Representative examples of municipal solid waste management experience:

1. North Texas Municipal Water District (NTMWD), Wylie, Texas.
121 Regional Disposal Facility (RDF)
Design engineer for the recently-opened 110-million-cubic-yard regional disposal facility for Collin County and the cities of Plano, Richardson, Frisco, Allen, and McKinney. Provided QA/QC for initial cell construction.
McKinney Landfill
Engineer for design and supervision of remediation of old City landfill and adjacent wastewater treatment plant. Remediation was completely funded through creation of additional airspace for new municipal waste. Conducted Tier 2 NSPS emission calculations.
Maxwell Creek Landfill
Engineer for permit amendments and modifications to increase capacity and to comply with Federal Subtitle D requirements. Conducted Tier 2 NSPS emission calculations and provided closure certification.
2. Texas Disposal Systems, Inc. (TDS), Austin, Texas
Texas Disposal Systems Landfill
Design engineer for composting facility processing C&D waste, yard waste, food waste, and scrap paper. Engineer for gas collection and control system.
Starcrest Transfer Station
Design engineer for conversion of the old City of San Antonio Starcrest Transfer Station to accommodate high payload open-top transfer trailers. Approximately one third of waste generated in San Antonio is currently transferred through this facility.
3. American Refuse, Inc., Houston, Texas.
Reuse/Recycling Facility
Design engineer for registration of facility reusing/recycling approximately 65,000 tons per year.
4. Kansas Department of Health and Environment
Statewide Evaluation of C&D Landfills
Principal investigator for evaluation of current state-of-practice at C&D landfills.
5. Four-County Solid Waste Management Plan, Levelland, Texas
Solid Waste Options
Project manager for solid waste plan development for Bailey, Cochran, Hockley, and Lamb Counties. Plan included regional transportation system, regional landfill, and other management alternatives.
6. Waste Management, Inc., Ferris, Texas.
Skyline Landfill
Design engineer for currently operating twenty-six-million-ton capacity municipal landfill.

Appendix III – Representative examples of industrial / hazardous waste management experience:

1. Texas Utilities
Monticello Steam Electric Station
Investigation, characterization, design, and construction supervision of multiple storage and disposal facilities including soil-bentonite slurry wall and groundwater monitoring system.
Sandow, Big Brown, Twin Oak, and Martin Lake Electric Stations
Investigation, characterization, design, and construction supervision of multiple storage and disposal facilities including soil-bentonite slurry wall and groundwater monitoring system.
2. U.S. Navy
Cecil Field Naval Air Station, Jacksonville, Florida
Planned, designed, supervised, and prepared RCRA Facilities Investigation (RFI) Report for eighteen solid waste management units (SWMUs).
3. Sparton Technologies, Inc.
Coors Road Facility, Albuquerque, New Mexico
Planned, designed, investigated, supervised, and prepared RCRA Facilities Investigation (RFI) Report and Corrective Measures Study (CMS) Report.
4. Van Waters & Rogers
Spokane Facility
Facility was located over shallow "sole-source aquifer". Provided technical negotiation for RCRA section 3013 and 3008(h) Consent Orders. Planned and implemented site investigation and characterization and designed corrective measures that successfully remediated solvent contamination of soil, soil gas, and groundwater to allow clean closure.
5. City of Dallas Texas
Southside Sludge Management Facility
Planned and implemented site investigation and characterization and designed groundwater protection system consisting of multiple soil-bentonite slurry walls.
6. U.S. Department of Justice
U.S. v Marine Shale Processors
Expert witness for U.S. DOJ/EPA on site characterization during penalty phase of enforcement trial.
7. U.S. EPA
Region VI Corrective Action Oversight
Provided technical review and technical support for corrective action at five industrial manufacturing plants, two hazardous waste disposal sites, and four military bases.

Appendix IV – Representative examples of environmental remediation experience:

1. North Texas Municipal Water District
City of McKinney WWTP and MSWLF
Investigated, designed, and implemented successful remediation to address chlorinated solvent contamination in soil, groundwater and surface water. Over 3 million cubic yards of contaminated material were excavated and relocated into a new “lined” facility. Project was financed by creation of new airspace for MSW disposal.
2. Van Waters & Rogers
Spokane Facility, Washington
Facility was located over shallow “sole-source aquifer”. Planned and implemented corrective measures that successfully remediated solvent contamination of soil, soil gas, and groundwater to allow clean closure.
3. Sparton Technologies, Inc.
Coors Road Facility, Albuquerque, New Mexico
Planned and implemented corrective measures that addressed chlorinated solvent contamination and successfully remediated soil gas contamination and began successful groundwater remediation [in progress] including recharge.
4. Texas Utilities
Monticello Steam Electric Station Ash Ponds
Planned and implemented corrective measures that addressed high pH and heavy metal release to groundwater and surface water. Corrective measures included a soil-bentonite slurry wall.
5. City of Frisco, Texas
Stewart Creek WWTP
Planned and implemented corrective measures to address lead contamination resulting from sludge drying beds. The affected area was remediated and clean closed.
6. U.S. Navy
Point Molate Fuel Depot, California
Technical consultant for planning and implementing corrective measures to address hydrocarbon contamination of soil, groundwater, and surface water. Remediation included biopolymer interception trench and geosynthetic subsurface barrier.
7. U.S. EPA
Evaluation of Subsurface Engineered Barriers at Waste Sites, EPA 542-R-98-005
Co-author of the two-volume 1998 EPA publication that provided an in-depth evaluation of subsurface barriers at 162 environmental sites to serve as a “summary” of the state of practice and a detailed evaluation of methodology and design recommendations.
8. U.S. Air Force
March Air Force Base, California
Technical consultant for planning and implementing a multi-dye tracer study that confirmed operating characteristics of an in situ groundwater treatment system demonstration (UVB system).

Appendix V – Representative examples of fossil fuel electric power generation experience (Texas):

In the 1970's and early 1980's, Pierce Chandler was a principal in the Dallas office of NFS/ National Soil Services, Inc. – a primary geotechnical engineering, materials engineering, and environmental engineering consultant to the Texas power generation industry for that era. He was field supervisor, chief engineer, and vice-president in that organization. Mr. Chandler supervised field exploration and laboratory testing and provided engineering design and construction QA/QC services for numerous projects. These projects included lignite-fueled steam electric stations, coal ash disposal facilities, cooling water reservoirs (dams), lignite surface mines, and railroads / haulroads. His work also included various studies of coal ash and fly ash as an engineering construction material. Through these various projects, he has extensive knowledge of subsurface conditions in the "lignite belt" of Texas and extensive experience in engineering design and construction for power generation facilities.

Specific examples of his Texas power generation experience would include:

- Big Brown SES, Freestone County (waste management facilities, haulroads, dam)
- Sandow SES, Milam County (generating unit 4, lignite exploration, entrance road)
- Monticello SES, Titus County (generating unit 3, waste management facilities, railroad, dam, lignite exploration)
- Martin Lake SES, Rusk County (generating units 1, 2 & 3, railroad, waste management facilities, loading stations, dam)
- Thermo Loading Station, Hopkins County (loading station, railroad, haulroad)
- San Miguel SES, Atascosa County (generating units, railroad, haulroad, waste management facilities, lignite exploration)
- Gibbons Creek SES, Grimes County (generating units, dam, lignite exploration)
- Henry Pirkey SES, Harrison County (generating units)
- Oklaunion SES, Wilbarger County (generating units)
- Coleto Creek SES, Goliad County (generating unit, dam, railroad)
- Twin Oak Project, Robertson County (generating units, waste management facilities, dam, railroads)
- Oak Knoll Project, Limestone County (siting studies, mining impact to groundwater)
- Forest Grove Project, Henderson County (generating units, dam, railroad)
- Ward County Project (siting studies)
- Fayette Power Project, Fayette County (dam)
- Morgan Creek SES, Mitchell County (dam)

Appendix VI – Representative examples of water / wastewater management experience:

1. City of Dallas

East Side Water Treatment Plant, Phases II and III

Provided geotechnical design and construction QA/QC for Phase II and III expansions.

Southside Wastewater Treatment Plant

Provided geotechnical design and construction QA/QC for the Sludge Management Facilities.

Tawakoni Balancing Reservoir and Pump Station

Provided geotechnical design and construction QA/QC for the raw water transmission facility.

North High Feeder Waterline

Provided geotechnical design and construction QA/QC for the North High Feeder Line.

Central Wastewater Treatment Plant

Provided geotechnical design and construction QA/QC for various expansions.

2. City of Commerce Texas

Wastewater treatment Plant

Provided geotechnical design and construction QA/QC for new wastewater treatment plant

3. City of Sherman Texas

Wastewater treatment Plant

Provided geotechnical design and construction QA/QC for major expansion to City's wastewater treatment plant.

4. City of The Colony, Texas

Water and Wastewater Facilities

Provided geotechnical design and construction QA/QC for the City's raw water intake pump station water treatment and wastewater treatment plants.

5. North Texas Municipal Water District

Texoma to Trinity Pipeline

Provided geotechnical design and construction QA/QC for raw water pipeline

Appendix VII – Representative examples of coastal / ocean engineering experience:

1. Corps of Engineers Waterways Experiment Station

Portable Littoral Drift Bypassing Program

Managed program responsible for development of portable bypassing equipment and techniques – both in-house and at selected Universities. Prototype evaluations were conducted at Mexico Beach and Destin Florida, Virginia Beach Virginia, and Santa Cruz and Camp Pendleton, California.

Assistant Station Diving Officer

Served as Assistant Station Diving Officer and was appointed to Corps-wide committee regulating technical Corps diving policies and procedures.

Technical Consultant

Provided technical consulting services to the Office, Chief of Engineers on various dredging projects.

2. Monterey Bay, California

Technical consultant on various remedial shore protection projects, beach restoration, and new developments from Santa Cruz to Monterrey.

3. Pekor Pump Company

Provided design and custom applications of pumping equipment for numerous dredging and coastal zone management projects. Work was conducted for the Corps of Engineers, California and Florida Departments of Natural Resources, Southern Public Service Company, and Georgia Power.

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Blue Flats Development Permit Application and Hearing (Stability analyses) 1997

Texas Disposal Systems Landfill (Austin) MSW Composting Facility (Design Engineer) 1997

City of Garland Transfer Station; North Texas Municipal Water District (NTMWD) Lookout, Parkway, and Custer Transfer Stations; NTMWD McKinney and Maxwell Creek MSW Landfills; Texas Disposal Systems (TDS) MSW Landfill; San Antonio Starcrest Transfer Station; and Austin Eco Depot Transfer Station (Engineer for Closure/Post-Closure Plans and Cost Estimates) 1997-2006

City of Garland's Raney MSW Landfill Citizen's Convenience Center (Design Engineer) 1997-1998

City of Irving (w/ Trinity River Authority) Pilot Study – Beneficial Use of Biosolids as Landfill Cover, (Design Engineer) 1997-1998

NTMWD McKinney MSW Landfill Footprint and Final Cover Permit Modifications (Design Engineer) 1997-2003

NTMWD McKinney MSW Landfill Liner QA/QC (Engineer of Record) 1997-2004

NTMWD 121 RDF Permit Application (Engineer-of-Record, Design Engineer) 1997- Permit issued 2003

Evaluation of Subsurface Engineered Barriers at Waste Sites, Volumes I and II, EPA-542-R-98-005, USEPA Office of Solid Waste and Emergency Response (Co-Author) 1998

NTMWD, NSPS/EG Tier 2 Testing – Maxwell Creek and McKinney Landfills (Engineer of Record) 1998

American Refuse (Houston) Type V Transfer Station Registration (Registration Engineer) 1998

Adobe Ecosystems MSW Landfill Permit Application (Geotechnical Engineer and Hydrogeologist representing party opponents) 2000-2002

Texas Disposal Systems System Landfill, NSPS/EG Tier 2 Testing (Engineer of Record) 2000-2003

TSP Industrial Landfill Permit Application (Geotechnical Engineer and Hydrogeologist representing party opponents) 2001-2002

Pending Patent 10/128,157 for "Enhanced Subtitle D Design Standard Composite Liner" filed 04/23/02 (Design Engineer and Applicant) 2002

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Tan Terra Environmental Services Inc. MSW Landfill Permit Application, Jones County, Texas
(Design Engineer) 2002-2004

North Texas Municipal Water District (NTMWD), NSPS/EG Tier 2 Testing – Maxwell Creek and
McKinney Landfills *(Engineer of Record) 2003*

NTMWD, 121 RDF Initial Cell Construction QA/QC, Gas and Groundwater Monitoring System
Installation *(Engineer of Record) 2003-2004*

NTMWD, 121 RDF Permit Modifications for Site Operating Plan *(Engineer-of-Record, Design
Engineer) 2003-2006*

Geotechnical Report for City of Commerce MSW Landfill Subtitle D Permit Modification
(Geotechnical Engineer) 2003

Closed Type IV Landfill Gas Investigation (Buda, Texas) *(Engineer of Record) 2004*

Texas Disposal Systems Landfill, Design and Installation of Gas Collection and Flare Control
System *(Engineer of Record) 2004-2005*

City of Mason (Texas) Landfill, Permit Modification to increase height ten feet *(Engineer of
Record) 2004-2005*

Texas Disposal Systems Landfill, Permit Amendment Application for major expansion *(Review
Engineer) 2005-2007*

City of Mason (Texas) Landfill, Various Permit Modifications including Site Operating Plan
(Engineer of Record) 2005-2007

NTMWD, Maxwell Creek Closure Certification *(Engineer-of-Record) 2006*

McCarty Road MSWLF Expansion *(consulting expert opposing permit) 2006-2008*

Kendall Land & Cattle / Waste Management of Illinois, Willow Run Landfill Permit Application
(Peer Reviewer, QA/QC) 2006-2007

Texas Organic Products, Travis County, Texas *(testifying expert opposing permit) 2006-2007*

Williamson County MSWLF Expansion *(consulting expert opposing permit) 2007-2008*

Comal County [Mesquite Creek] MSWLF Expansion *(consulting expert opposing permit) 2007-
2008*

Blue Ridge MSWLF Expansion *(consulting expert opposing permit) 2007-2008*