



**EXPERIENCE:** Dr. Reeves has over 15 years of experience performing environmental and water resource management projects. She is an expert on the Ogallala aquifer and is a coauthor of “The Ogallala Aquifer (of the Southern High Plains)<sup>1</sup>.” Her combined experience in assessing both aquifer water quality and water quantity, and serving both private industry and government, provides a unique, well-rounded experience base for solving hydrogeologic problems.

Dr. Reeves’ water resource management experience includes calculation of volume of water in storage in one of the principal drinking water aquifers in the United States. She developed a state-of-the-art methodology using numerical modeling and geographic information systems, compared and evaluated volume values acquired through other calculation techniques, provided technical review of State of Texas regional and district water plans, and evaluated water use by agricultural user groups. Dr. Reeves has performed comprehensive studies of aquifer supply for plant operation water for industrial users and has used numerical models for aquifer dewatering assessments.

Dr. Reeves’ extensive environmental experience includes investigating subsurface release of contaminants, including hydrocarbons, industrial and hazardous wastes, TSCA waste, and naturally occurring radioactive materials (NORM). She has participated in and managed hundreds of site evaluations including tank batteries, airport fueling spills, contamination from waste oil injection wells, and releases from leaking underground storage tanks. Investigations included evaluation of local geologic conditions in both the saturated and unsaturated zones,

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<sup>1</sup> Reeves, C.C. Jr. and Reeves, J.A., 1996, The Ogallala Aquifer (of the Southern High Plains): Llano Estacado Press, 360p.



design of boring and drilling plans, conducting slug and aquifer tests, evaluating remediation systems (pump and treat, SVE, bioremediation, natural attenuation, permeable reactive barriers) and design and implementation of closure strategies.

Dr. Reeves has over ten years experience performing health based risk assessments. She has specialized training and has utilized various risk assessment strategies and methodologies including Decision Support Software (American Petroleum Institute), Tier 2 RBCA (Groundwater Services, Inc.), ASTM Tier II RBCA, EPA Risk Assessment Guidance for Superfund, TCEQ Plan A and Plan B Risk Assessments for Underground Storage Tank sites in Texas, TCEQ Risk Reduction Rules and the TCEQ Risk Reduction Program (TRRP). She has used these methodologies to evaluate risk to human health from contaminants in soil, groundwater and air as well as risk associated with cross media transfer.

Dr. Reeves served as technical community representative for the Restoration Advisory Board at Reese Air Force Base, Lubbock, Texas and as a member of the Technical Committee for the Llano Estacado Regional Water Planning Group. She is a frequent presenter at water seminars in the State of Texas.

**SELECTED  
PROJECTS:**

*Water Resource Evaluation, West Texas-New Mexico:* Dr. Reeves completed a two year project calculating the volume of water in storage in the Ogallala aquifer for a 22 county area. The project included evaluation of existing calculation methodologies and comparing and contrasting existing values for volume of water in storage using the various techniques. As a result, Dr. Reeves developed a state-of-the-art methodology using numerical modeling



and geographic information systems which is still in use today as the methodology of choice by investigators. She presented her results at various state meetings, including the Texas Ground Water Symposium in 2004.

***Evaluation of Ogallala-Cretaceous aquifers, Lynn County, Texas:*** To support groundwater availability modeling (GAM) by the State of Texas, Dr. Reeves prepared the first comprehensive study of the combined Ogallala-Cretaceous aquifers on the Southern High Plains. She presented the results of her study at a Texas Water Development Board meeting and the study is currently used by the state GAM contractor as the geologic example for modeling the rest of the Southern High Plains.

***Calculation of Water Use by Agricultural User Group, Texas:*** Dr. Reeves performed an in depth study of water use by dairy farmers in West Texas. The study was used to compare water use by crop producers to water use by the dairy farmers, a rapidly developing industry on the Southern High Plains. Dr. Reeves incorporated water use for animal feed production, a method which had not previously been utilized. The result was water use values that allowed accurate acre-to-acre user group comparisons between crop and dairy farmers.

***Regional and District Water Management Plans, Technical Review:*** Dr. Reeves provided technical review of numerous state, regional, and district water management plans. The reviews included evaluation of both water supply and water demand and review of the numerical models supporting the water management plans.

***Oil Refinery Site (Superfund) – West Texas, Project Manager:*** Dr. Reeves served as project manager and provided detailed evaluation of site conditions with respect to the TRRP rules vs. the Risk Reduction Rules at a former



oil refinery site. The evaluation determined which set of rules were best suited for site conditions. She used a state of the art geographic information system (GIS) to manage the complex data set.

*Oil/Gas Pipeline Construction Site – North Texas:* Dr. Reeves assessed the effect from drilling a gas distribution line on stream and spring flow on a northeast Texas ranch. The study included evaluation of water availability in the watershed, a biological evaluation, and water quality sampling.

*Federal Facility – Lubbock, Texas:* Dr. Reeves served as local peer review for the primary RCRA investigation subcontractor at Reese Air Force Base, Texas. She reviewed all reports generated by the subcontractor and interfaced with regulators, contractors, and the BRAC cleanup team.

*Industrial Property – Lubbock, Texas. Project Manager:* Served as senior scientist for investigating Jet A contamination in soil and groundwater concerning a lawsuit at a helipad spill site. Dr. Reeves' work included design and placement of soil borings and monitoring wells to define subsurface impact, a risk evaluation which supported site closure, and provided technical support to the legal team.

*Industrial Property – Plainview, Texas:* Coordinated bench scale study with Texas Tech University scientists to determine adequacy of bioremediation of hydrocarbon contaminated soils. Successful bioremediation of hydrocarbon contaminated soils resulted in site closure.

*Municipal Sites– Lubbock, Texas. Project Manager:* Investigated municipal fire training sites in West Texas. Contaminants included hydrocarbons, heavy metals, and



chlorinated solvents. Dr. Reeves developed the risk assessment strategy and designed groundwater and soil sampling plans.

***Industrial Water Supply – Hale County, Texas:*** Dr. Reeves assessed adequacy of groundwater supply for a major beef packing plant in West Texas. She performed aquifer pump tests using variable speed pump tests with multiple pumping wells and analyzed the water supply using a numerical groundwater model.

***State Underground Storage Tank Site – Lubbock County, Texas, Project Manager:*** Dr. Reeves delineated the hydrocarbon plume, managed the risk assessment and development of target cleanup concentrations, was the principal contact with regulators, and managed subcontractors, including one of the foremost remediation contractors in the United States. Utilized a nitrate reduction system for in-situ bioremediation of the hydrocarbons in the vadose zone and groundwater. The remediation system was the first nitrate reduction system approved by the TCEQ in the State of Texas.

***State Cleanup Contract, Texas:*** Dr. Reeves managed the state-lead contract for Site Investigations of Underground Storage Tank sites in West Texas. The project included proposal preparation, contract negotiation, and supervision of contract performance by the administrative and technical staff.

***Municipal Facility – West Texas:*** Dr. Reeves served as project hydrogeologist for a TSCA site in West Texas. She designed the soil boring and monitoring well sampling plans to evaluate impact of PCBs in soil and water.

***Commercial-Industrial Facilities, West Texas:*** Dr. Reeves served as senior scientist for investigating vadose and groundwater contamination for the world's largest



nonalcoholic beverage company. The project included assessment and remediation of approximately 15 underground storage tank sites in West Texas.

*Cotton Gin - West Texas:* Dr. Reeves investigated hydrocarbon contamination at a cotton gin at a site involving complex geology and a major drinking water aquifer. The project included design and installation of 17 monitoring wells in both a deep perched aquifer (>100') and the major aquifer. She performed the health based risk assessment using EPA Risk Assessment Guidance for Superfund and developed the closure strategy.

*Commercial Property for Real Estate Management Company - West Texas:* As project hydrogeologist, Dr. Reeves assessed encroachment of groundwater into a subsurface structure in a major West Texas municipality. Groundwater encroachment was due to effects of urbanization (aquifer mounding). She used a numerical groundwater model to evaluate flow and designed a dewatering plan.

**EDUCATION:**

**Ph.D., Geosciences:** Texas Tech University, 1990.

**Masters of Science, Geology:** Texas Tech University, 1988.

**Bachelors of Arts, Geography with Remote Sensing concentration:** Texas Tech University, 1983 (4.0 grade average, TTU President's List, Phi Kappa Phi (National Honorary), Gamma Theta Upsilon (Geography Honorary), Sigma Gamma Epsilon (Geology Honorary).

**WORK HISTORY:**

**Senior Hydrogeologist,** Cirrus Associates LLC, Dallas, 2006 to present.

**Hydrogeologist,** High Plains Underground Water Conservation District, Lubbock, 2003-2006.

**Senior Scientist,** ARCADIS, Midland, 2000-2003.



*Cirrus Associates, LLC*

**JUDY REEVES, Ph.D., P.G.**  
**Senior Hydrogeologist**

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**Senior Geologist/Hydrogeologist**, Compliance Services Group, Inc., Lubbock, 1990-2000.

**Hydrologic Technician**, US Geological Survey - Water Resources Division, 1988-1990.

**PROFESSIONAL**

**REGISTRATIONS:** Texas Licensed Professional Geoscientist No. 426

Registered Professional Geologist (Pennsylvania, No. 00929)

Certified Professional Geologist (AIPG, No. 9889)

Registered Corrective Action Project Manager (Texas, No. 00163)

**PROFESSIONAL**

**ASSOCIATIONS:** National Ground Water Association

Association of Ground Water Scientists and Engineers

Geological Society of America

American Institute of Professional Geologists

Industry Council on the Environment

**RECENT**

**PRESENTATIONS:** “Groundwater-Desired Future Conditions: Science, Law and Policy”, Texas Water Law Conference, Austin, Texas, September 10-11, 2007.

“Volume of Water in Storage (An Ogallala Example with Applicability to All Aquifers in Texas)”, Texas Ground Water 2004 Towards Sustainability, Austin, Texas, November 18-19, 2006.