



PROFESSIONAL PROFILE



Jay Klein, PG

Vice President | Principal Geologist

CONTACT INFORMATION

Main: (281) 397-3805
Direct: (713) 829-8094
Email: jklein@rouxinc.com
Website: www.rouxinc.com

19450 State Highway 249
Suite 260
Houston, TX 77070

EDUCATION

MS, Geology, Stephen F. Austin State University, 1986
BA, Geology, Trinity University, 1982

PROFESSIONAL LICENSES

Registered Professional Geoscientist in Texas and Louisiana
Licensed by the Texas Commission on Environmental Quality (TCEQ) as a Leaking Petroleum Storage Tank (LPST) Corrective Action Project Manager (CAPM)

EXPERIENCE SUMMARY

Mr. Klein has thirty-six years of environmental consulting experience focused on the assessment and remediation of contaminated sites that have been affected by releases from landfills, surface impoundments, product bulk storage tanks, pipelines, gas plants, chemical manufacturing process units, and petroleum exploration and production (E&P) facilities in Texas and Louisiana, where he is licensed as a Professional Geoscientist. He is also licensed by the Texas Commission on Environmental Quality (TCEQ) as a Leaking Petroleum Storage Tank (LPST) Corrective Action Project Manager (CAPM).

His professional experience includes Roux, Houston, Texas: Vice President, July 2023-Present and Principal Geologist, July 2021-Present; Trinity Environmental, Sugar Land, Texas: Principal Geologist, March 1995-July 2021; Camp Dresser & McKee Inc., Houston, Texas: Senior Hydrogeologist/Project Manager, August 1993-March 1995; Law Environmental, Inc., Houston, Texas: Senior Hydrogeologist/Industrial Department Manager, January 1990-August 1993; and Geo Associates, Inc., Houston, Texas: Staff Hydrogeologist, October 1987-December 1989.

TECHNICAL SPECIALTIES

Mr. Klein is an expert in the application of the Texas Risk Reduction Program (TRRP), which is a risk-based corrective action process used to focus investigations and establish reasonable response objectives that will protect human health and the environment and preserve the active and productive use of land. He has also provided hazardous waste permitting assistance to clients, including the preparation of permit and compliance plan applications, modifications, and renewals. He has served as an expert witness in support of litigation concerning the nature, degree, extent, causation, source of contamination and cost to cure, and environmental due diligence for real estate transactions.

REPRESENTATIVE PROJECTS

- Affected Property Assessment (APA), Tier 2 Screening-level Ecological Risk Assessment (SLERA), Interim Corrective Measures (ICM) Implementation, and Response Action Plan (RAP) – Tank Farm Fire Incident.** Developed and implemented a workplan for an APA to address the release of constituents of concern (COCs) associated with a fire incident involving twelve 80,000-barrel capacity aboveground storage tanks at a product bulk storage terminal facility in Deer Park, Texas. The objectives of the APA included: development of a conceptual site model that identified potentially complete human health and ecological exposure pathways and hydrogeologic properties that influence contaminant fate and transport; determination of the degree and extent of affected media associated with the incident; and identification of COCs associated with the incident, based both on process knowledge and on the characterization of the contaminant source areas, including an analysis of the frequency and spatial distribution of the relevant detections. Directly supervised the field investigation, which included the collection of soil, groundwater, surface water, and sediment samples for lab analysis and the performance of slug tests to determine aquifer characteristics; evaluated the data in comparison to critical protective concentration levels (PCLs), including site-specific soil PCLs developed for protection of groundwater, and prepared an APA report (APAR). Assisted with the development and implementation of a workplan for a Tier 2 SLERA. Developed and implemented an ICM Workplan to stabilize and abate the spread of COCs to include supervision of the excavation of affected soil for off-site disposal and the collection of closure verification samples from the limits of the excavation to document attainment of cleanup criteria. Completed and implemented a RAP to remediate affected media at the site under TRRP Remedy Standard B.

- **Arbitration Support for Industrial Real Estate Transaction, 29 Oil Exploration and Production (E&P) Sites.** Mr. Klein represented a large independent oil company involved with the divestiture of 29 oil E&P sites in Texas. The purchaser, which is a major integrated oil company, alleged the tracts contained environmental defects in the aggregate of approximately \$16,300,000. Mr. Klein evaluated the purchaser's compliance with commercial and customary practice for exercise of due diligence in real estate transactions, per ASTM E-1527-13 and ASTM E1903-11, as well as the purchaser's recommended scope of work, and estimated cost to assess and remediate the alleged environmental defects identified on the 29 tracts. Expert report, deposition, and arbitration finding in support of client.

- **Affected Property Assessment, Interim Stabilization Measures, Remedial System Design and Installation, Long-Term Groundwater Monitoring, and Expert Witness Testimony, Pipeline Spill Site.** An APA was conducted in response to the discovery of a subsurface release from a pipeline that transfers methanol from a chemical plant to a product bulk storage terminal facility in Texas. The assessment identified protective concentration level exceedance (PCLE) zones in surface soils, subsurface soils, and groundwater, and surface water and sediments in an adjacent bayou were also found to be impacted. Potential human health and ecological concerns were mitigated at the Site through implementation of interim stabilization measures, which included the excavation and off-site disposal of grossly impacted soils that were removed during pipeline repair work and initiation of groundwater pump and treat within seven (7) days after the spill was discovered.

Conducted field work during assessment phase, including soil, groundwater, surface water and sediment sampling, aquifer testing, drilling oversight and soil logging, soil boring and monitor well installation, well development and sampling using both traditional well purge and low-flow sampling techniques. Coordinated and directed drilling, field sampling, surveying, and laboratory services. Provided construction oversight for installation of groundwater extraction well system, and supervised operation and maintenance of system. Supervised data reduction efforts including development of spreadsheets and graphs to track effluent production and changes in contaminant concentration versus time, figures, tables, etc. Data interpretation and reporting, including preparation of Affected Property Assessment Report (APAR), Response Action Plan (RAP), and periodic project status reports. Attended project meetings with potentially affected parties and state regulators to negotiate closure options. Provided expert witness testimony in support of litigation, including

preparation of affidavits, deposition testimony, and trial testimony in federal district court.

- **Groundwater Detection Monitoring Program, Corrective Action Program (CAP) and Compliance Plan Report, Chemical Plant.** Responsible for the implementation of a Resource Conservation and Recovery Act (RCRA) detection monitoring program, CAPs to address releases from solid waste management units (SWMUs) and Areas of Concern (AOCs), and annual reporting at a chemical plant in Texas. Conducted routine groundwater monitoring events using low-flow sampling techniques. Conducted routine inspections and performed required repairs for operation and maintenance of remediation system, which is comprised of 18 groundwater extraction wells and an effluent conveyance system to transport recovered groundwater to the facility's on-site treatment system. Prepared annual reports to document the work performed, findings, conclusions, and recommendations.
- **Groundwater Investigation and Remediation, Chemical Manufacturing Process Unit.** Two (2) groundwater plumes consisting of chlorinated solvents were detected at a chemical plant site in Texas. One (1) plume was detected through a Phase II Environmental Site Assessment conducted in association with an industrial real estate transaction, and the other plume was detected during a RCRA Facility Investigation (RFI). The assessments identified two (2) distinct groundwater PCLE zones, and long-term monitoring data supported the use of monitored natural attenuation (MNA) to address the contamination within the context of plume management zones (PMZs) under the Texas Risk Reduction Program (TRRP) Remedy Standard B. Conducted field work during assessment phase, including soil and groundwater sampling, drilling oversight and soil logging, soil boring and monitor well installation, and well development and sampling. Coordinated and directed drilling, field sampling, surveying, and laboratory services. Supervised data reduction efforts including development of spreadsheets and graphs to track changes in contaminant concentration versus time, figures, tables, etc., as necessary to present the findings. Preparation of Affected Property Assessment Reports (APARs), Response Action Plans (RAPs), Response Action Effectiveness Reports (RAERs), and Response Action Completion Reports (RACRs).
- **RCRA Facility Investigation, Baseline Risk Assessment (BLRA), Corrective Measures Study (CMS), and Corrective Measures Implementation, Landfills and Surface Impoundments.** Prepared and implemented an RFI Workplan to determine the nature, degree, and extent of contamination released from nine (9) SWMUs at a chemical plant in Texas, as required by the plant's RCRA Permit/Compliance Plan. Prepared a BLRA to evaluate risks to human health and the environment posed by contamination emanating from the Site

under current and potential future land uses, assuming no remedial action; prepared a CMS to select the most cost-effective remedial option for areas of concern that were determined to require cleanup under the BLRA; and conducted the CMI, which included construction, operation, maintenance, and monitoring of the corrective measures (cleanup activities) recommended in the CMS report.

- **RCRA Permit Renewal Applications, Permit Amendments, and Permit Modifications, Chemical Plants.** Prepared RCRA permit/compliance plan renewal applications, permit amendments, and modifications for several chemical plants in Texas. Work included development of Part A and Part B application forms, preliminary review checklists for SWMUs, closure plans, post-closure plans, inspection plans, training plans, geology reports, groundwater sampling and analysis plans, and cost estimates for financial assurance.

REPRESENTATIVE EXPERT RETENTIONS/APPEARANCES

Robert Reeds, et al. Vs. B.P. American Production Company, et al. Docket No. 10-18714 in the 38th Judicial District Court for the Parish of Cameron, State of Louisiana. Jones Walker, LLP. Expert report and deposition: June 30, 2015.

Leonard May and Catherine May Vs. Duke Energy Field Services, LP a.k.a. DCP Midstream, L.P., et al. Cause No. 07-62775-1 in the County Court at Law Number One of Nueces County, Texas. Sico, White, Hoelscher, Harris & Braugh, LLP. Expert report and deposition: September 16, 2014.

Roland Beck Sr. et al. Vs. H.B. Zachary Co, Oneok Bushton Processing, et al. Cause No. B-09-1116-CV-A in the 36th Judicial District Court of Bee County, Texas. Wiggington, Rumley & Dunn, L.L.P. Expert report and deposition: January 27, 2011.

Lynn Andrus et al. Vs. Amoco Production Company et al. Cause No. 10-17350 in the 38th Judicial District Court of Cameron Parish, Louisiana. Fibich, Hampton, & Leebron, L.L.P. Expert report and affidavit: September 23, 2009.

Selma Bednarek Vs. William Browning and Steven Holik. Cause No. 08-CV-162258 in the 434th Judicial District Court of Fort Bend

County, Texas. The Sher Law Firm, PLLC. Expert report and affidavit: June 1, 2009.

Terry A. Canales et al. Vs. Triad Energy Corporation, Mobil Natural Gas, Inc., et al. Cause No. 99-02-37323-CV in the 79th Judicial District Court of Jim Wells County, Texas. The Bandas Law Firm, P.C. Expert report and affidavit: January 13, 2009.

Celanese Corporation vs. Coastal Water Authority, KBR, Inc. et al. Case No. 4:06-cv-02265 in the US District Court for the Southern District of Texas, Houston, Texas. Husch & Eppenberger, LLC. Court testimony: March 9-10, 2009; and deposition: January 9, 2008.

Casa Bonita Ranch, LLP vs. Duke Energy Field Services, LLC et al. Cause No. 06-3-8973 in the 267th Judicial District Court of Goliad County, Texas. Hilliard & Munoz, LLP. Court testimony: April 22-23, 2008; affidavit: March 19, 2008; and deposition: February 12, 2008.

PROFESSIONAL TRAININGS

Naturally-Occurring Radioactive Material (NORM) Surveyor Course for the Oil and Gas Industry (2012)

TRRP Training Modules 1-3 (TNRCC Course TP-007)

Accelerated Bioremediation of Groundwater Using Slow Release Compounds

OSHA – HAZWOPER Supervisor, 8-Hour OSHA Refresher, Basic Safety Environmental Statistics

Assessment, Control, and Remediation of LNAPL-Contaminated Sites

Basic Project Management

Risk Management – Corporate Loss & Liability Prevention

Leadership & Network Development

Quality Assurance Procedures (TQM)

Law Companies Professional Training

Loss & Liability Prevention for Industrial Real Estate Projects

TCEQ Environmental Trade Fair & Conference (2001-2023)