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Specializations

Environmental Site Assessment
Site Investigation & Contamination Characterization
GIS Services
Data Processing & Exhibit Preparation

Education

M.S. Environmental Science, Oklahoma State University, 2017
B.S. Biology, Indiana University, 2008

Relevant Employment History

2018 to Present Environmental Scientist, Lithochimeia, LLC, Tulsa, OK
2017 to 2018 Assistant Scientist, IMMIX, LLC, Fairview, OK
2015 to 2017 Environmental Field Technician, Lithochimeia, LLC, Tulsa, OK

Relevant Experience**Petroleum Exploration, Production and Transportation**

Assisted landowner in Pittsburg County, Oklahoma in a matter related to saltwater release from a saltwater disposal line. Conducted surface geophysical survey (EM-31 terrain conductivity) and soil sampling.

Evaluated the nature and extent of salt and oil contamination of soil and groundwater and evaluated production operations practices and access road maintenance and use over a 10,000 acre ranch with oil and gas production in Washington County, Oklahoma using records review, air photo interpretation, on-ground observation, soil and water sampling and surface geophysical survey (EM-31 terrain conductivity). Ongoing matter.

Assisted aviation company in matter related to jet fuel contamination resulting from an agricultural plane crash in Garfield County, Oklahoma. Conducted field VOC detection using Photoionization Detector and confirmatory soil samples. Prepared report for Oklahoma Department of Environmental Quality and Oklahoma Department of Agriculture.

Assisted oil and gas operator in assessing extent and volume of oil and saltwater contaminated soil in Noble County, Oklahoma resulting from a parted flowline. Conducted geophysical survey (EM-31



terrain conductivity), soil and water sampling. Prepared report and specified area to be excavated to surface company (active matter).

Assisted operators in Osage County, Oklahoma in responding to USEPA site investigation requirements following a release of saltwater to a creek; conducted and interpreted geophysical survey (EM-31 terrain conductivity). Continue to monitor salinity levels in the creek to assess progress of contamination reduction (active matter).

Assisted neighboring landowners in matter related to saltwater release from multiple valve stations in Pittsburg County, Oklahoma. Conducted soil sampling (active matter).

Assisted oil and gas operator in matter related to saltwater contaminated soil resulting from a parted flow line in Harper County, Kansas. Performed field soil conductivity testing using YSI Conductivity Meter to direct excavation in real time and obtained confirmatory soil samples. Prepared report.

Assisted oil and gas operator in matter related to oil and saltwater release from a tank battery in Garfield County, Oklahoma. Conducted multi-stage effort to restore soil quality through in-situ bioremediation, managed removal of tank battery and associated equipment.

Assisted landowner of large ranch in Carter County, Oklahoma in matter related to refined hydrocarbon release from steel pipeline. Conducted multiple surface geophysical surveys (EM-31 Conductivity Survey, Electrical Resistivity Tomography) to determine cavernous porosity that provided pathway for contamination from pipeline to nearby spring where hydrocarbons were detected. Supervised drilling of water monitoring wells which both confirmed cavernous porosity indicated by geophysical surveys and provided pathway for water sampling. Wrote analytical reports for client use. (Ongoing matter)

Evaluated extent of saltwater contamination from oil and gas operations on a private landowner's property in Okmulgee Country, Oklahoma using geophysical survey (EM-31 terrain conductivity).

Assisted landowners of large ranch in Washington County, Oklahoma in a matter related to saltwater release from oil and gas operations. Referenced historical aerial photos to evaluate progression of brine water scarring on property over two decades.

Assisted oil and gas operators in over forty small scale remediations related to oil saltwater releases located on well pads in Western Oklahoma. Designed and implemented remediation protocols to restore soil health and promote in-situ bioremediation. Conducted soil and water sampling, prepared reports.

Assisted landowner in matter related to saltwater release from 12-inch poly line in Hughes County, OK. Conducted and interpreted geophysical surveys (EM-31 terrain conductivity) and soil sampling. Generated sampling maps and graphic interpretations of tabular laboratory results. Matter ongoing.

Evaluated nature and extent of salt contamination from subsurface saltwater flow line for landowners in Payne County, OK. Conducted and interpreted EM-31 and EM-38 terrain conductivity surveys to visualize deep and shallow subsurface contamination, respectively. Collected soil samples and generated sampling maps and graphical interpretations of laboratory results. Matter ongoing.

Assisted insurance company regarding progress of in-situ bioremediation of salt contamination from oil and gas operations on property in Payne County, Oklahoma. Performed EM-31 Terrain Conductivity Survey over 40 acres of property to assess the nature and extent of persisting contamination and determine recommendations for further action.

Assisted insurance company in matter regarding hydrocarbon and brine water release into a pond in Pontotoc County, Oklahoma. Screened multiple depth ranges with YSI Conductivity Meter to determine presence of a salt lens within the pond. Collected water samples for lab analysis and confirmation.

Assisted multiple landowners in Major County, Oklahoma in a matter regarding release of high saline water from a neighboring injection well. Conducted and interpreted terrain conductivity surveys over multiple sections of surface area. Installed multiple piezometers for groundwater sampling and performed water well tests on properties of interest.

Performed and evaluated CMD-Explorer Terrain Conductivity Surveys over a section of land to investigate a purging injection well in Kingfisher, Oklahoma. Matter ongoing.

Environmental Contamination, Toxic Tort and Transactional Matters

Conducted and prepared a Phase-I Environmental Assessment for the Indian Healthcare Resource Center in support of the acquisition of three contiguous lots in Block 1 of the Central Park Place Addition for expansion of service facilities in Tulsa, Oklahoma.

Assisted developers in Eddy County, New Mexico regarding construction of a complex of Tank Batteries over karst geology. Performed EM-31 Terrain Conductivity Survey to locate subsurface voids that would prohibit construction of large structures on the surface.

Assisted landowners in Major County, Oklahoma regarding saltwater which had infiltrated their home's basement and contaminated their private water wells used to supply drinking water. Mapped saltwater plume using EM-31 Terrain Conductivity Survey and mapped the contamination to neighboring oil and gas operations.

Assisted landowners in a dispute over correct usage of pipeline rights-of-way across their property. Located pipelines as well surface soil disturbances over those pipelines. Georeferenced the right-of-way and determined that structures built by the client did not infringe on the right-of-way.

Surface and Groundwater Resources

Assisted private landowner in development of groundwater resources for commercial use in Payne County, Oklahoma. Performed pump testing of water well and obtained samples for lab analysis. Installed well protector and concrete pad in accordance with OWRB regulations.

Assisted landowner and private geological company in evaluating the effect of seismic testing in Western Oklahoma on local water wells. Project involved measuring recharge rates of, and the water quality within, 30+ water wells located adjacent to a seismic investigation of the basement layer before and after the seismic test in order to determine if any deleterious effects took place.

Assisted former building owner in a regulatory matter regarding release of PCE from a former dry-cleaning operation at an urban site in central Oklahoma.

Assisted company performing Ground Penetrating Radar studies in Major Country, Oklahoma by performing water well performance tests. Tested the output and water quality of 32 water wells before and after their investigations to document any impacts the GPR Studies may have had on well performance and water quality.

GIS Services

Provided GIS Services for an oil and gas focused land services company regarding land acquisition in Texas, USA. Responded to bi-weekly updates on acquisition for oil and gas rights, creating visual representation of the progress of leasing rights.

Assisted landowners in a matter concerning the effects of man-made bank erosion controls on meandering behavior of the Canadian River adjacent to their property. Created GIS-based visual representations of river behavior from the 1890s to present. Advised attorneys as to the potential impact of erosion controls on local river behavior.

Assisted landowners in watershed in Northeast Oklahoma regarding the effect poultry industry activity is having on local ground and surface water quality. Project included extensive mapping of poultry house locations, poultry waste application areas, client properties, waterways, and creation of underlying data associated with each.

Assisted former building owner in a regulatory matter regarding release of PCE from a former dry-cleaning operation at an urban site in central Oklahoma. Georeferenced contamination plume maps to show previous sampling investigations were incorrectly placed and that further investigation was appropriate.

Superfund

Assisted landowners in matter related to the Wilcox Oil Company Superfund Site in Bristow, OK. Evaluated historic site investigations documented by the USEPA and compiled two decades of sampling results. Mapped sampling locations and documented results for report on potential metal, hydrocarbon, VOC and SCOV contamination on four parcels currently owned on the site of the refinery. (Matter ongoing)

Publications, Reports and Abstracts

Redden, B and Fisher J. B. 2017. Site specific risk assessment of soil sensitivity to brine release, Osage County, Oklahoma. 24th Annual International Petroleum Environmental Conference, San Antonio, TX - October 30, 2017 to November 1, 2017).

Fisher, J., B. and Redden, B. 2018. Are there holes below us? Assessment of Prospective Flowback Water Storage Sites for the Presence of Shallow Karst. 25th Annual International Petroleum Environmental Conference, Denver, CO - October 30, 2018 to November 1, 2018

