Mary Van Der Loop
Sanctuary Oaks Consultants Int'l, Inc.
P. O. Box 453
Flatonia, Texas 78941

sanctuaryoaksgeo@starband.net
sanctuaryoaksgeo@yahoo.com

361-865-2901
361-865-2901 fax
832-434-3639 cell

M. L. Van Der Loop
Gas Shale/Oil Shale Experience

Wolfcamp Shale, Permian Basin, West Texas (2011-2015)

Conducted confidential review of Wolfcamp Shale potential for private clients. Project consisted of regional cross section network, resolution of correlation problems, construction of structure, isopach and net pay maps for prospective units, log analysis, thermal maturity analysis using USGS and other data, production analysis to define prospective units, and cuttings sample collection to define TOC content and lithologies with XRay diffraction. Study in progress for identification of most prospective areas in Wolfcamp Shale and subordinate units, based on Total Organic Carbon content, Thermal Maturity, structural setting, thickness, stratigraphic (top/base seal) relationships, favorable mineralogy, and favorable stress and overburden (geomechanical) relationships. Client pursuing prospective acreage in play. Tests for commerciality ongoing.

Bone Spring Avalon Shale, Permian Basin, Southeast New Mexico and West Texas Delaware Basin (2010-2011)

Conducted confidential review of Bone Spring Avalon Shale potential for private client. Project consisted of regional cross section network, resolution of correlation problems, construction of structure, isopach and net pay maps for prospective units, log analysis, thermal maturity analysis using USGS and other data, production analysis to define prospective units, and cuttings sample collection to define TOC and define lithologies with XRay diffraction. Study resulted in identification of most prospective areas in Avalon Shale, based on Total Organic Carbon content, Thermal Maturity, structural setting, thickness, stratigraphic (top/base seal) relationships, favorable mineralogy, and favorable stress and overburden (geomechanical) relationships. Client pursuing prospective acreage in play.

Haynesville Shale, North Louisiana and East Texas (2008-2009)

Weatherford Laboratories Haynesville Shale Core Consortium Project. Project consisted of research into Haynesville stratigraphic relationships, resolving correlation problems, constructing regional cross section network, creating correlation database for

Haynesville Shale Play, constructing drill depth and isopach maps of Haynesville Shale and Haynesville/Bossier Petroleum System.

Appalachian Basin Marcellus Shale (2008/2009)

Weatherford Laboratories Marcellus Shale Core Consortium Project. Project consisted of constructing regional cross section network, correlation database, drill depth, interval isopach maps, and base seal integrity map in New York, Pennsylvania and West Virginia, Marcellus Shale Play. Project used 678 wells spaced throughout the play.

Woodford Shale, Arkoma Basin/Seminole Uplift (2008)

Generated complete acreage evaluation project for private client in Devonian Woodford Shale for areas updip of current active drilling area. Study included cuttings and core sample collection, regional cross sections, and study of all pertinent regional literature (including Fort Worth Basin Barnett Shale). Woodford Isopach and facies maps were constructed; base and top seal integrity maps were generated. Study included interpretation of data generated from cuttings/core sampling program from Rock Eval, XRay Diffraction, Porosity/Permeability and Thermal Maturity based on Vitrinite Reflectance and Resistivity log character. Study resulted in identification of most prospective areas in Woodford Shale, based on Total Organic Carbon content, Thermal Maturity, structural setting, thickness, stratigraphic (top/base seal) relationships, favorable mineralogy, and favorable stress and overburden (geomechanical) relationships. Client pursued acreage position in play; 6 wells drilled in one portion of this Woodford study area calculate 100-200 BCF per section GIP. Tests for commerciality ongoing.

Fayetteville/Caney/Woodford Shales, Arkoma Basin (2005-2007)

Generated complete study for client/employer in Mississippian Fayetteville/Caney (Barnett Shale Equivalent) and Devonian Woodford Shale. Study included cuttings and core sample collection, regional cross sections, and study of all pertinent regional literature (including Fort Worth Basin Barnett Shale). Arkoma Basin regional structure maps, isopach and facies maps were constructed using a representative amount of well control. Study included interpretation of data generated from cuttings/core sampling program from Rock Eval, XRay Diffraction, Porosity/Permeability and Thermal Maturity. Study resulted in identification of most prospective areas in Woodford Shale, Caney Shale, and Fayetteville Shale for a Shale Gas leasing/drilling program, based on Total Organic Carbon content, Thermal Maturity, structural setting, thickness, stratigraphic (top/base seal) relationships, favorable mineralogy, and favorable stress and overburden (geomechanical) relationships. Drilling results for industry and most favorable areas in this play were accurately predicted by this study. Client company has participated in 90 successful wells to date in core area of play.

Bakken Shale, Williston Basin (2006-2007)

Participated as Team Lead/Team Member for client in Devonian Bakken Shale study, Williston Basin (US portion). Study included cuttings and core collection, analysis of all pertinent literature, regional cross sections, regional structure, isopach and facies maps of all three members (Upper and Lower Shales and Middle Bakken Siltstone)

using a representative amount of well control. Study included interpretation of publicly available rock data (USGS and NDGS), and data generated from cuttings/core sampling program from Rock Eval, XRay Diffraction, Porosity/Permeability and Thermal Maturity (including the Vitrinite Reflectance Suppression issue affecting the Bakken Shale). Study resulted in identification of most prospective areas in Bakken Shale Formation for a leasing/drilling program, based on Total Organic Carbon content, Thermal Maturity, structural setting, thickness, stratigraphic (top/base seal) relationships, favorable mineralogy, favorable Poissonôs Ratio relationships, and favorable stress and overburden relationships. Client purchased acreage in areas identified by this study as favorable; client participated in active industry drilling program in Mountrail Co., North Dakota.

Cherokee Shale, Anadarko Basin (Texas Panhandle) 2005-2006

Generated area study for private client in to determine feasibility of Cherokee (Pennsylvanian) gas shale production in Texas Panhandle. Study included shale cuttings collection, regional cross sections with appropriate facies change correlations, pertinent regional literature, regional structure, isopach and facies maps, top/base seal relationships, interpretation of cuttings analysis program (Rock Eval, XRay Diffraction, Porosity/Permeability, and Thermal Maturity), and stress/overburden relationships. Study resulted in identification of expansion potential of Cherokee gas shale production, but also identified many possible zones of unfavorable shale mineralogy content.

Neal Shale, Black Warrior Basin (2004-2005)

Generated complete study for private client in Mississippian Neal/Floyd Shale (Barnett Shale Equivalent). Study included cuttings and core sample collection, regional cross sections with appropriate facies change identifications, and study of all pertinent regional literature (including Fort Worth Basin Barnett Shale). Black Warrior Basin regional structure maps, isopach and facies maps were constructed. Study included interpretation of data generated from cuttings/core sample analysis program from Rock Eval, XRay Diffraction, Porosity/Permeability and Thermal Maturity. Study resulted in identification of most prospective areas in Neal Shale for a Shale Gas leasing/drilling program, based on Total Organic Carbon content, Thermal Maturity, structural setting, thickness, stratigraphic (top/base seal) relationships, and favorable mineralogy.

Other Shale Opportunities: Assisted client/employers in Regional Evaluation and Sampling Programs for other shale opportunities
Appalachian Basin: Sampling Program Devonian Marcellus Shale for client