

### Professional Profile - Expert



Shane Bofto is a Senior Chemical/Environmental Engineer for HydroSolutions, with over 32 years of experience in environmental work related to oil and gas production and refining, hardrock, coal, and aggregate mining, and resource development focusing primarily on air and water quality. Projects have involved mining, energy, oil and gas (upstream, midstream, and downstream), underground coal gasification (UCG), and chemical production encompassing water management, modelling, permitting, compliance, EIS, environmental due diligence, water chemistry, treatment and remediation. Locations have included United States, Canada, and internationally.

### Academic Credentials

MBA	Management, University of Mary	2009
B.S.	Chemical Engineering, Montana State University	1986
	Biology/Chemistry, Eastern Montana College	1980-82

### Professional Affiliations

Member, American Institute of Chemical Engineers, AIChE  
Member, Society of Petroleum Engineers

### Certifications

OSHA (29 CFR 1910)	Hazardous Materials Training
Montana UST Removers License	#R-0594-459 - Expired

### Selected Project Experience

#### EXPERT TESTIMONY

**ARCO (Anaconda, Montana)** - Developed permits for construction and discharge of 7 outfalls for a drain tile system to control high groundwater. Activities included a water quality evaluation, contaminant source mitigation, legal depositions, and permitting for MPDES, 310 and 404 Permits. Provided expert testimony in support of ARCO as part of the civil case.

**Braaten Law Partners, Peterson v. Petro Harvester Operating Company (Bottineau County, North Dakota)** – Provided a field assessment for numerous produced water spills from a salt water disposal facility and oil and gas production. Parameters of concern included a soils impact assessment of total dissolved solids, sodium adsorption ratio, chlorides, radium and extractable petroleum hydrocarbons and review of defendant's remediation report to an agricultural field. The expert report integrated multiple disciplines to include hydrogeology, regulatory compliance (NDIC, NDDoH, EPA), soil chemistry, and hydrogeology.

**Braaten Law Partners, (Belle Creek, Montana)** – Provided a field assessment for oil and gas production spill and clean-up. Field assessment included sampling soils for EPH, common cations/anions, and observations in support of surface owner documentation of clean-up.

**Crist Law Firm, McEwen v. MCR, LLC (Shelby, Montana)** – Provided expert services regarding an oil and gas produced water permitted outfall for a surface pond used as a stock water source for sheep. Evaluations included decommissioning the pond through land application of the water, and surface reclamation of the pond bed.

**Crowley Fleck, PLLP, Skari v. True Oil (Liberty County, Montana)** – Provided expert services regarding clean-up of produced water impacted alkaline soils. Subsequent work included the preparation of a soils remediation plan to address soil EC and SAR.

**D’Alton Law Firm, Morgan Farms v. Interstate Explorations, LLC (Billings, Montana)** – Provided expert services regarding clean up and disposal of petroleum contaminated soils, storm water permitting issues, and spill prevention, control and countermeasure plans for a former drill site on private surface.

**Doney Crowley, P.C., Yellowstone Disposal Landfill Environmental Assessment (Sidney, Montana)** – Provided expert services regarding public comment of the DEQ prepared Environmental Assessment for the permit application to construct and operate a special waste landfill southeast of Sidney, Montana on behalf of a citizen’s group and their legal representation. Evaluation included ground and surface water, air quality, landfill operations, and waste acceptance criteria including NORM and TENORM.

**Moulton Bellingham, PC, Ralston v. City of Hardin (Hardin, Montana)** – Completed a site reconnaissance and expert witness opinion regarding plaintiff’s expert disclosure regarding storm water and sanitary sewer impacts to properties as a result of significant rainfall events.

**Montana Board of Oil and Gas, (Montana)** – Project Manager and Lead Engineer to prepare draft an application to EPA for Underground Injection Control (UIC) Program Class VI Primacy Application for Carbon Sequestration. Reviewed all EPA guidance documentation regarding project planning, site characterization, well construction, testing and monitoring, AOR corrective action guidance, financial responsibility, and public participation considerations. Used the guidance to complete the draft of six core element, MIT, P&A, Groundwater Investigations, Environmental Monitoring, Emergency Response, and Enforcement and Compliance Procedures of the primacy application.

**Sweely Oil Company, (Sidney, Montana)** – Conducted a remedial investigation and provided expert testimony in support of challenges to land use of a former Standard Oil services station.

#### **NEPA/ MEPA- EIS/EA**

**Montana DEQ, Butte Highlands Mine EIS (Montana)** -Project Engineer for Montana DEQ under the Hard Rock Mining Bureau and USFS. Evaluated primary, secondary impacts from air quality and hazardous materials for compliance with MEPA/NEPA, MMRA, and CWA.

**Montana DEQ, Garnet Hill Mine EIS (Montana)** - Project Engineer for Montana DEQ under the Hard Rock Mining Bureau. Project Engineer for Montana DEQ under the Hard Rock Mining Bureau. Evaluated primary, secondary impacts from air quality and hazardous materials for compliance with MEPA, MMRA, and CWA.

**Montana DEQ, Cloud Peak Energy, Spring Creek Mine (Montana)** – Project Engineer Reviewed the expansion EA for the proposed Spring Creek Mine Transportation Corridor and evaluated primary, secondary impacts for compliance for air and water quality with MEPA, MSUMRA, and CWA. Final EIS pending DEQ approval.

**Montana DEQ, Golden Sunlight Mine, (Whitehall, Montana)** - Reviewed the expansion EA for the East Area Pit Expansion Amendment for MDEQ. Review included an evaluation of potential water quality and quantity to

the Primary Pit Flowpath for Montana DEQ under the Hard Rock Mining Bureau, and evaluated primary, secondary impacts for compliance with MEPA, MMRA, and CWA.

**Montana DEQ, Montana Resources (Montana)** - Project Engineer on the Montana Resources EIS and was responsible for air quality and geochemistry. He also served as technical editor for water quality, water treatment and mining operations for Montana DEQ under the Hard Rock Mining Bureau, and evaluated primary, secondary impacts from air quality and water quality of tailings water for compliance with MEPA/NEPA, MMRA, RCRA, CAA, and CWA. Completed a technical memorandum on air quality at the project site. Draft EIS has been published for comment.

**Montana DEQ, Outstanding Resource Water EIS, Gallatin River (Big Sky, Montana)** - Through MDEQ's consultant, Garcia and Associates, a measurable change impact evaluation on water quality of the Gallatin River was completed. Projected impacts by developments along the Gallatin River through nutrients (nitrogen and phosphorous) were made in support of baseline and impacts analysis for the EIS. This was based on modelling impacts based on single family entities waste water flows and nutrient loading in hydrologically connected aquifers to the stream. Footprint analysis was developed to determine areas conjunctive interaction between stream and groundwater for the over 30 mile stretch.

**Rosetta Resources Operating, LP Programmatic Environmental Assessment, Oil and Gas Exploration and Development (Shelby, West Shelby, Calk Butte Prospect Area (Cut Bank, Montana)** - This was an extensive EA with multiple cooperating agencies covering 270,000 acres within the Blackfeet Indian Reservation. As project engineer, an evaluation was completed of environmental conditions with respect to air quality and GHG of an existing, historical oil field with respect to proposed development of horizontal and fractured wells within the resource area. The EAs evolved over the years to include greenhouse gas (GHG) emission evaluation and air quality concerns for development and long term production. Preparation of the EA documents involved a team of specialists and scientists from the BIA regional office, BIA Blackfeet Agency, Blackfeet Tribe, BLM, and the operator. The Draft EA was finalized in October 2011.

**USFS Blacktail Road Restoration and Stabilization Project, Environmental Assessment (Flathead National Forest, Montana)** – Completed an air quality and GHG impacts analysis based on current and existing Forest Service data, ensuring that the EA was consistent with recent land management EIS documents, responding to all public comments, compiling the project record, and revising the final EA and Record of Decision. The Draft EA was issued in July 2016, and the Final EA and Record of Decision were issued in December 2016.

**USFS Butte Highlands Mine Haul Road Project, Environmental Assessment (Montana)** - Served as lead consultant for the Forest Service's comment analysis and final Environmental Assessment with regards to GHG and air quality concerns. The Draft EA was issued in March 2014, and the Final EA was issued in March 2015. HydroSolutions also assisted the Forest Service to address issues during the objection process.

**USFS Fern Hardy Resource Area, Supplemental Environmental Assessment, (Flathead National Forest, Idaho)** – Performed a GHG/Air Quality impacts analysis for resource development within the Flathead National Forest. The Draft S EA was issued in December 2016. The Final S EA is in process.

#### **MINING and OTHER PERMITS**

**Cloud Peak Energy, Spring Creek Mine (Decker, Montana)** - Completed a geochemical evaluation of arsenic fate using USGS PHREEQC model to assess arsenic sources, speciation, and fate as a supplement to the mine's probable hydrologic consequences document.

**Echo Bay Minerals-Borealis Mine (Nevada)** - Reviewed and compiled data for effluent parameters from heap leach decommissioning rinse effluent for anticipated rinse water quality from spent leach pads. Water quality data was used in preparation of a heap leach closure permit.

**Golden Sunlight Mine (White Hall, Montana)** - Conducted this analysis to evaluate whether the East Area Pit would alter long-term predictions of groundwater quality and quantity along the Primary Pit Flowpath, or whether impacts would remain as disclosed in the April 1998 Final EIS (1998 FEIS) for Amendment 008 to Operating Permit No. 00065 and the July 2007 Supplemental EIS (2007 SEIS) for the Golden Sunlight Mine Pit Reclamation.

**Marc Rich Mining-Salsigne Mine et (Carcassonne, France)** - Investigated alternative forms of iron oxidation in mine water in order to precipitate the trace metals with organic flocculent. Investigated alternatives for the reduction of calcium sulfate scale by reagent selection and modification of operating parameters.

**Montana Department of State Lands, Abandon Mine Reclamation Bureau, Hazardous Mine Opening (Butte, Montana)** - Characterized waste rock dumps and profiled shaft water to evaluate potential environmental impacts prior to backfilling of historic hazardous mine openings. Parameters included assessment of acid generating materials, dissolved metals impact to groundwater, and beneficial use survey.

**Montana Department of State Lands, Abandon Mine Reclamation Bureau, Pony Hill Mine Tailings Decommissioning (Pony, Montana)** - Designed and installed a cyanide evaporation system to remediate weak acid dissociable cyanide from 27,000 yards of tailings located in a lined impoundment. Up to 6 million gallons of tailings surface and pore water were treated to drinking water standards during the fast track schedule.

**Landusky Mine Site, Swift Gulch Water Quality Evaluation (Landusky, Montana)** - Through Spectrum Engineering, site operator for MDEQ, a water quality evaluation of Swift Gulch was performed due to acid rock drainage seepage impacts. Water quality projections were completed along with the development of treatability options using lime addition.

**RTZ-Rössing Uranium Limited (Windhoek, Namibia, Africa)** - Evaluation and study of corrosion from high TDS process water in a uranium mine in NAMIBIA (Southwest Africa) due to high recycle rates within the milling circuit. High recycle rate of process water was due to the limited availability of water at the mine site.

## HAZARDOUS MATERIALS

**Marathon Oil Corporation (Wyoming)** - Prepared a hazardous waste handling document for hazardous materials handling including listed, characteristic and universal wastes for Marathon operations.

**Wyoming Land Quality Division (Wyoming)** - Reviewed adequacy of current Wyoming non-coal statutes, rules and regulations, guidelines, and standard operating procedure documents for the protection of the environment with regards to hazardous and Bevill exempted materials and implications of rare earth development. Specific attention was placed on rare earth elements and perpetual water treatment.

## AIR QUALITY

**Augustus Energy Partners, LLC (Wray, Colorado)** - Completed annual air quality and greenhouse gas (GHG) estimation and reporting for onshore natural gas EPA submittal. Ongoing work includes compliance with Federal (OOOO) and State of Colorado air quality regulations 3, 6 and 7, and minor source permitting of O&G production, compressor, and disposal/injection facilities.

**Genesis Energy, LP - Pronghorn Rail Facility (Douglas, Wyoming)** - Through the site consultant, Project Consulting Services, an air quality permit application was completed for a 40,000 barrel per day truck offloading facility with 6-2,000 barrel storage tanks. The facility also included 4-110,000 floating roof, above ground crude oil storage tanks, rail facility for loading upwards of 80,000 barrels per day of crude, 1-flare, with the facility powered by 4 natural gas fired RICE engines. Permit analysis included dispersion modelling for NOx using AERMOD.

**Intermountain Asphalt Supply (Fernly, Nevada)** - Estimated emissions for a proposed 100,000 ton per year asphalt storage and transfer facility and the associated 350 hp natural gas fired boiler and two 16 MM btu/hr natural gas fired heaters using AP-42 estimating procedures. Performed an MSDS, TSCA and HAPS review of on-site chemicals.

**Intermountain Asphalt Supply (Ogden, Utah)** - Estimated emissions for a proposed 150,000 ton per year asphalt storage and transfer facility and the associated 11.2 MM btu/hr natural gas fired boiler and two 11.2 MM btu/hr natural gas fired heaters using AP-42 estimating procedures. Performed an MSDS and TSCA review of on-site chemicals. Completed air quality permit applications.

**Marathon Oil Corporation (Wyoming)** - Completed five minor source air quality permits for grandfathered unitized facilities with over 100 wells per facility in basins with near 100 years of production.

**Marathon Oil Corporation (Wyoming)** - Completed evaluation of six facilities for hydrogen sulfide emission and dispersion. Evaluations included geochemical modelling of hydrogen sulfide in produced water using USGS PHREEQC model. Emissions were estimated using EPA's WATER9 model and dispersion evaluated using EPA's AERMOD.

**Marathon Oil Corporation (Wyoming)** - Completed a minor source emission inventory for all Marathon Wyoming oil and gas facilities for WyDEQ biannual reporting.

**Riverside Contracting (Pablo, Montana)** - Estimated emissions for a proposed 15,000 ton per year asphalt storage and transfer facility and the associated 200 hp boiler using AP-42 estimating procedures. Performed an MSDS and TSCA review of on-site chemicals.

**Rosetta Resources – Alberta Basin (Cut Bank, Montana)** - Completed an air quality and greenhouse gas impact analysis for a programmatic environmental assessment for oil and gas development within a region of historical oil and gas production.

**Saint Mary's Exploration (SME) formerly Nance Petroleum, Inc. (Eastern Montana/Western North Dakota)** - Completed over 140 minor source air quality permits/registration for oil and gas facilities with a three month completion date. Completed an air dispersion evaluation using SCREEN3 dispersion modelling software for hydrogen sulfide and VOC impacts to the area for BLM review.

**United States Exploration (DJ Basin, Colorado)** - Completed 15 minor source registrations for condensate and natural gas wells within the DJ basin.

## ENVIRONMENTAL ENGINEERING

**Big Horn County Museum (Hardin, Montana)** - Performed a preliminary domestic wastewater treatment wetland design incorporating subsurface and surface flow wetland treatment cells for the treatment of approximately 0.5 million gallons per year of domestic wastewater. Parameters of concern included nitrates, BOD, fecal coliform and TSS.

**CENEX Petroleum, Inc. (Billings, Montana)** - Designed and constructed a soil vapor extraction system for in-situ petroleum contaminated soil remediation and a dual completion sparge system to address the remediation of dissolved organic constituents in groundwater.

**Chaffin, Inc. (Billings, Montana)** - Designed and constructed a soil vapor extraction/sparge system for remediation of in-situ petroleum contaminated soil and dissolved organic constituents in groundwater.

**Hudstad Property (Helena, Montana)** – Designed an SVE system installed beneath a monolithic slab for remediation of PCE using horizontal boring techniques to install the vapor wells. Designed and implemented a granular activated carbon air treatment system to recover PCE.

**Montana Resources (Butte, Montana)** - Tasks included project management, sampling process outfall and approximately 40 wells ranging from 20 to 500 feet in depth. Sampling included measurement of numerous field parameters and evaluation of laboratory reports. Also performed hydraulic conductivity testing and evaluation of aquifers placed in both waste rock piles and tailing impoundments.

**Fidelity Exploration and Production Company, Wyoming** - Completed an injection feasibility study and for injection into the Eagle Formation-Shannon Sandstone in the Powder River Basin. Prepared dual UIC application of Class V and II w/ associated aquifer exemption rationale to EPA Region VIII.

**Golden Sunlight Mine, Barrick Minerals, (Whitehall, Montana)** - Reviewed expansion EA for the East Area Pit Expansion Amendment for MDEQ. Review included an evaluation of potential water quality and quantity to the Primary Pit Flowpath.

**Merit Energy Company (Formerly Marathon Oil Corporation), Wyoming** - Ongoing waste reduction evaluations for oil and grease and sulfide/sulfate reduction in produced water discharges and numerous facilities in the Rocky Mountain Operations at total flows exceeding 250,000 barrels of produced water per day. Evaluations have included degradation models, geochemical modelling, dynamic system modelling and treatment options.

**Miller Paint Company (Eugene, Oregon)** - Developed workplan and cost estimate for voluntary clean-up of chromic acid contaminated soils beneath a building and concrete slab. Established clean-up criteria and coordinated off-site disposal of both hazardous and non-hazardous waste.

**Montana Department of Environmental Quality (Big Sky, Montana)** - Performed field sampling and stream gauging and evaluated water quality data for the Big Sky Environmental Resource Assessment. Parameters of concern included nutrients and TSS associated with both natural and manmade sources.

**Montana Department of Environmental Quality, Helena Solvent Site (Helena, Montana)** - Completed a remediation evaluation, and designed/installed at 150 cubic feet per minute horizontal soil vapor extraction system to remove PCE from the vadose beneath a dry cleaner facility. Project included the design and implementation of a GAC system to remove vapors from the SVE exhaust stream

**Nance Petroleum, Inc. (SME) (Montana)** - Prepared a Class II and V UIC permit for injection of CBNG produced water into the Fox Hills in the Powder River Basin. Application included support for proposed aquifer exemption through EPA Region VIII for the Class II disposal well.

**Tristates Mint (Rapid City, South Dakota)** - Compiled data for USEPA administrative hearing. Data included calculation of various cyanide/metal concentrations and degradation rates in plating solutions. Researched literature related to industrial hygiene concerns of constituents emanating from gold and silver plating solutions.

## **WATER QUALITY PERMITTING**

**ARCO (Anaconda, Montana)** - Developed permits for construction and discharge of 7 outfalls for a drain tile system to control high groundwater. Activities included a water quality evaluation, contaminant source mitigation, legal depositions, and permitting for MPDES, 310 and 404 Permits. Provided expert testimony in support of ARCO as part of the civil case.

**Black Hills Power and Light-Kirk Power Plant (Rapid City, South Dakota)** - Developed regulatory contacts for permitting and approval prior to effluent pipe diffuser installation and coordinated all governmental permit applications. (Army Corp of Engineers, USEPA Region 8, South Dakota Department of Water and Natural Resources).

**Brewer Gold-Westmont Mining (Jefferson, South Carolina)** - Developed site specific criteria for NPDES permit for selected parameters in Little Fork Creek. Implemented a flow measurement apparatus and

engineered pipe modification for flow measurement of sediment pond discharge into Little Fork Creek for NPDES permit compliance.

**Confidential Client (Canada)** - Assisted in developing site specific criteria for ammonia in mine effluent water for the protection of salmonids in the receiving stream. Performed calculations for free ammonia criteria development based upon pH and temperature.

**Confidential Client (United States)** - Examined waste load allocation sensitivity to dilution and hardness related values for the development of effluent limitations for NPDES permit development. Developed site specific effluent criteria for silver and cyanide.

**Cyprus Minerals (Thompson Creek, Idaho)** - Compiled water quality data. Examined dilution and hardness measuring their effect on effluent limitations developed through waste load allocation computations. Performed a sensitivity analysis to optimize effluent discharge on the receiving stream currently being utilized as a trout fishery.

**FMC-Beartrack Mining (Salmon, Idaho)** - Assisted in the development of revised site specific criteria for the NPDES permit. Tasks included validation of USEPA criteria for waste load allocations and statistical evaluation. Assisted in developing discharge strategies using controlled hydrograph release to enhance dilution due to seasonal fluctuations in receiving stream volume.

**Homestake Mining (Lead, South Dakota)** - Examined sensitivity of hardness related parameters and dilution requirements for NPDES renewal permit for an existing outfall.

**Kraken Oil, O&G Facility, Richland County (Montana)** - Completed a Notice of Intent for coverage under an NPDES construction storm water general permit for construction disturbance for a highway turnout and well facility pad, and completed a Storm Water Pollution Prevention Plan.

**Linc Energy, Underground Coal Gasification Demonstration Project (Campbell County, Wyoming)** - Evaluated water quality baseline data and development of UCLs, permitting assistance, restoration of water quality evaluation and treatability options, and aquifer exemption.

**Phoenix Production – Breitburn Energy, O&G Facilities, North Sunshine Field (Wyoming)** - Completed a construction WYDPES storm water permit application for construction disturbance for a lease road and well facility pad, and completed a Storm Water Pollution Prevention Plan.

**Rosetta Resources – Tribal Big Rock Facility (Cut Bank, Montana)** - Completed an erosion control plan for lease road upgrades and well pad facility for a new O&G development on Tribal Lands through the BLM.

**Times Limited (Bozeman, Montana)** - Compiled water quality and bioassessment data to evaluate impacts from historic and active mine operations in Whitewood Creek drainage area near Lead, South Dakota.

**United Parcel Service (Alaska and Montana)** - Developed EPA Class V Underground Injection Control permits for discharges emanating from UPS facilities in EPA Regions 8 and 10.

**United Parcel Service (Billings, Montana)** - Developed pretreatment permit application for POTW discharge from a truck wash facility. Selected oil/water separator to meet effluent standards.

#### **PROCESS ENGINEERING - (ACID MINE DRAINAGE, METALS, AND CYANIDE TREATMENT)**

**Atlantic Richfield Company, ARCO (Butte, Montana)** - Assisted in engineering projects and installed instrumentation, piezometers and discrete interval samplers in constructed wetlands for treatment of metals and sulfide impacted mine waste runoff.

**Boliden Resources (Bald Mountain, Maine)** - Developed a process design and cost estimate for a 1.2 MGD wastewater treatment facility for the treatment of high selenium, chromium and acid mine drainage wastewater to meet primary drinking water standards. The treatment facility used pH adjustment, sulphide precipitation, water softening and multimedia sand filtration with either ion exchange or reverse osmosis for tertiary treatment of specific metals to reach effluent limitations. Anticipated wastewater characteristics were modelled over a 10 year life of mine.

**Brewer Gold (Jefferson, South Carolina)** - Performed an economic analysis and feasibility study for an AVR process for the recovery of cyanide from mine tailings. Conducted batch pilot plant study using AVR and the effect on acid mine drainage and precipitation of gypsum in tailings impoundments.

**Brewer Gold (Jefferson, South Carolina)** - Investigated alternative methods of acid mine drainage control via iron precipitation through trisodium phosphate addition. Performed an extensive investigation for previous acid rock drainage control through chemical application to include the use of apatite and surfactants. Specific types of chemicals containing phosphate were researched to evaluate availability, price, and phosphate content. Field trials were performed at the mine site and proved successful.

**Confidential Client (United States)** - Performed a process design and cost estimation for a 7.2 MGD acidification/volatilization/reneutralization (AVR) process to recover cyanide from mine tailings. This process was later patented as the Cyanasorb Process. Also, performed an economic and feasibility study of the process to predict cyanide recovery payback period.

**Cyprus Minerals (Thompson Creek, Idaho)** - Provided a process design and cost estimate for a 1.5 MGD treatment facility for acid mine drainage and metals removal for a potential mine outfall discharging to the Salmon River in Idaho.

**Minnova (Canada)** - Provided a process design and cost estimate for a 0.4 MGD treatment facility for acid mine drainage and metals removal for a mine outfall discharging to Sturgeon Lake in Ontario, Canada.

**Marathon Oil Company (Oregon Basin, Wyoming)** – Over the course of 10 years, performed ongoing water management, process engineering, and permitting services on facilities discharging up to 250,000 barrels of water per day.

**SME formerly Nance Petroleum (Billings, Montana)** – Provided ongoing water management services for coal bed methane development to include treatment, dynamic system modelling, and cost estimates to manage waste streams over 5 years of development.

**Nerco Minerals-Delamar Silver Mine (Jordan Valley, Oregon)** - Modified and operated a pilot plant and performed laboratory studies for the recovery of cyanide tailings slurry using the AVR process. Acid consumption and metals attenuation were studied on the reneutralized tailings. The data was used in the design of a 2.0 MGD facility. This plant was the first one of its kind in the United States. Reviewed existing technologies for the treatment of selenium and wad cyanide in tailings for economically feasible treatment methods.

## **ENVIRONMENTAL SITE ASSESSMENTS- DUE DILIGENCE**

**Augustus Energy Partners, (Colorado)** - Performed an Environmental Compliance Evaluation of approximately 700 gas and oil wells with associated compression, pipeline and salt water disposal wells. The project included site equipment inventories, regulatory compliance evaluation, Storm Water Permit, and UIC permit review.

**Breitburn Energy (Wyoming)** - Through their consultant, Golden Globe Engineering, a Phase I ESA was performed on O&G properties at Black Mountain, Gebo, Half Moon, Hidden Dome, North Sunshine, Rolff Lake, Sheldon Dome, West Oregon Basin fields, Wind River and Circle Ridge Pipelines. Properties included BLM, Tribal, Fee, and State surface and minerals.

**Department of Energy, RMOTC-NPR No. 3 (Casper, Wyoming)** - Performed a Phase I ESA on approximately 700 oil and gas properties to include industrial landfills, composting areas, a gas plant and crude, gas and salt water disposal (SWD) pipelines. Assessment included verification of UIC permits, MIT expiration, pit permits and reclamation requirements, and site equipment inventories.

**Double D Energy (Nevada)** - Performed a Phase I ESA on approximately 12 oil and gas properties to include a salt water disposal (SWD) pipeline. The project included site equipment inventories.

**MCR, LLC, Montana** - Performed a Phase I ESA on approximately 600 oil and gas properties to include a gas plant and crude, gas and salt water disposal (SWD) pipelines. Assessment included verification of UIC permits, MIT expiration, pit permits and reclamation requirements, and site equipment inventories.

**Montana Power Company (Billings, Montana)** - Performed a Phase I Environmental Site Assessment using ASTM Standard E-1527-93 on a 90 mile 6-inch crude/product Shoshone Pipeline prior to acquisition.

**Nance Petroleum, Inc. (Montana, Wyoming, Colorado, Nevada)** - Performed a Phase I ESA on approximately 500 oil and gas properties to include a gas plant and crude, gas and salt water disposal (SWD) pipelines. Assessment included verification of UIC permits, MIT expiration, pit permits and reclamation requirements, and site equipment inventories.