

RAYMOND H. HUFF, REPA

Education

BA – Philosophy (Minor in Geology), Whittier College, 1991
MBA – Information Systems Emphasis, Keller Graduate School of Management, 1999



Professional Licenses

Accredited Lead Verifier under California Air Resources Board (CARB) with Transactions, Oil and Gas Systems, and Process Emissions Specializations
Registered Environmental Property Assessor (REPA) (No. 106984), National Registry of Environmental Professionals

Specialty Certifications

40-Hour OSHA Hazardous Waste Site Operations (HAZWOPER) Health and Safety Certification
8-Hour OSHA HAZWOPER Supervisor Certification

Professional Affiliations

Board of Directors, Southern California Waste Management Forum
Landfill Gas Technical Advisory Group; California Department of Recycling and Recovery (CalRecycle)
Solid Waste Association of North America (SWANA)
Air & Waste Management Association (AWMA)

Professional Experience

Mr. Huff, a Vice President with SCS Engineers, has over 27 years of experience in environmental consulting, specializing in landfill regulatory compliance, assessment, remediation, post-closure care, and air quality/compliance issues, including greenhouse gas (GHG) emissions quantification. He is the closed landfill regulatory compliance and GHG emissions quantification Project Lead within SCS's offices throughout the western U.S., responsible for technical expertise on landfill post-closure care and redevelopment, landfill reactions (chemical and oxidation-based), GHG emissions quantification and verification, landfill regulatory compliance, and emissions quantification procedures.

Mr. Huff is also the National Lead for compliance with the federal Greenhouse Gas Reporting Program (GHGRP) within SCS, responsible for quantifying and reporting for more than 600 of the 900 landfills subject to the GHGRP. Because of this expertise, Mr. Huff has assisted the U.S. Environmental Protection Agency (EPA) with investigation and solution of errors identified in the electronic Greenhouse Gas Reporting Tool (e-GGRT).

Through his expertise, Mr. Huff has been the Project and Task Manager on a variety of projects related to landfill investigations, risk assessments, solid waste management, GHG/air regulatory

compliance, hazardous waste management, hazardous substance site investigation and remediation, as well as other environmental issues.

Landfill

Environmental Monitoring and Post-Closure Care for Cal-Compact Landfill, Carson, CA (SWIS # 19-AQ-0012). This 157-acre site was a former hazardous waste landfill, currently being considered for redevelopment, and currently is under the oversight of the Department of Toxic Substances Control (DTSC). Project tasks included overall site management, including regulatory liaison on behalf of site owners, landfill gas (LFG) monitoring and assessment, LFG system operation and maintenance (O&M), groundwater sampling and analysis, cover maintenance and repair, site security, storm water sampling/analysis and inspections, LFG engineering, design of methane protection systems, and site development assistance.

CalRecycle, LFG Monitoring Well Functionality for 20 Landfills, CA. Under contract with CalRecycle (formerly CIWMB), Mr. Huff developed the approach and implemented a functionality assessment of 200 LFG monitoring probes at 20 landfills located throughout California. The functionality assessment entailed an initial condition assessment, gas monitoring, vacuum testing, video borescope inspection, and lithologic evaluation of each probe included in the study. The results of this study were presented to the CIWMB and utilized to develop the CIWMB's probe construction best management practices (BMPs).

LFG Engineering and O&M for Confidential Landfill, MO. The site was a former rock quarry located in Eastern Missouri, which at the time was undergoing an elevated temperature reaction within the waste mass. The scope of work included ongoing O&M of the existing gas collection and control system (GCCS), as well as data analysis and reporting to state and federal regulatory agencies. Mr. Huff was the SCS Team Lead for the project, coordinating activities between state, federal, and local regulatory agencies and public interest groups, and preparing high-level reports for site owners to better understand the extent and financial impact of the reaction.

LFG Assessment, Cover Maintenance, and Monitoring for Cogen Kramer Landfill, Los Angeles, CA (SWIS # 19-AA-0581). The site is located adjacent to residential development and two Los Angeles County correctional facilities. Project tasks included an assessment and emergency cover repair associated with a subsurface combustion event, LFG migration assessment, and preparation of an LFG and cover assessment work plan for installation of LFG migration probes and ongoing cover maintenance. The project included regulatory liaison with the Los Angeles County Law Enforcement Agency (LEA), CalRecycle, EPA, and South Coast Air Quality Management District (SCAQMD). In addition, methane monitoring was conducted associated with the use of one of the closed jail facilities for TV and movie productions.

Investigation and Remediation for Former Landfill, Long Beach, CA (SWIS # 19-AK-5018). Mr. Huff was Project Manager for the investigation of potential contamination derived from the landfill site adjacent to the Long Beach Memorial Medical Center. The area was the site of an expansion of the hospital and included oil field wastes and municipal waste disposal. Investigations included soil and soil vapor analyses in addition to an evaluation of the lateral and vertical extent of waste disposal. Project activities also included the excavation and removal of contaminated material and California Environmental Quality Act (CEQA) support during development of the hospital expansion.

Landfill Investigation, LFG Engineering, Human Health Risk Evaluation and Impact Assessment, Proposed Residential Developments for Site Adjacent to the Otay Landfill, Chula Vista, CA (SWIS # 37-AA-0010). Project activities at the site included an evaluation of LFG migration, LFG engineering and testing, air quality permitting and compliance, soil and LFG sampling and analysis,

human health risk assessment (HHRA) and nuisance/odor evaluation, CEQA assistance, O&M of the LFG collection and control system, and other landfill engineering and construction services. The risk assessment and odor/nuisance analysis was completed to support residential development adjacent to the landfill.

HHRA Evaluation and Impact Assessment for Proposed Commercial Developments for Site Adjacent to BKK Landfill, West Covina, California (SWIS # 19-AF-0001). The BKK site included two landfills: one municipal solid waste landfill and one hazardous waste site, which were under the oversight of the DTSC. Mr. Huff completed various investigations and data reviews/analyses of soil, surface water, groundwater, LFG, and air quality. The data were used for the completion of an HHRA in support of the CEQA process for a proposed golf course and business park development on the Class III landfill.

Investigation, Risk Assessment, and Remediation Feasibility Study for Mission Bay Landfill, San Diego, CA (SWIS # 37-AA-0026). Mr. Huff developed the LFG sampling portion of the site assessment work plan for the former landfill site, which is located next to a river, bay, and amusement park and is used heavily for recreational purposes. The field investigations were followed by a risk assessment, and, given the highly visible and public nature of the landfill project, focus on risk communication was the primary importance. Ultimately, several candidate risk-based remediation methods applicable to the site were identified with typical costs associated with each method. The project included interface with the San Diego County Air Pollution Control District (SDAPCD), Regional Water Quality Control Board (RWQCB), Solid Waste Local Enforcement Agency (LEA), and DTSC.

County of Monterey, Salinas Valley Solid Waste Authority (SVSWA) Air Quality Impact Assessment (AQIA), HHRA, and CEQA Assistance for Regional Landfill Project, CA. Regional air quality impacts, including an HHRA, were evaluated as part of an EIR for 4 different combinations of the expansion of 3 regional landfills and the placement of 10 regional transfer stations throughout the Salinas Valley. One of the landfills contained hazardous waste, including burn ash, which had to be evaluated for potential health risks. The risk assessments included an evaluation of risks from diesel exhaust from mobile equipment and vehicles.

Landfill Investigation, Regulatory Compliance, and LFG Engineering Activities for Upland Sanitary Landfill, Upland, CA (SWIS # 36-AA-0005). Project activities at the site included design and installation of a perimeter probe migration monitoring system, LFG collection and control system evaluation and engineering, air emissions sampling and analysis, and development of alternative regulatory compliance plans under SCAQMD Rule 1150.1, including regulatory liaison with California Integrated Waste Management Board (CIWMB) closed, illegal, and abandoned (CIA) staff.

Landfill Gas Assessment, Cover Maintenance, and Monitoring for Lane Road Disposal, Irvine, CA (SWIS # 30-CR-0063). The site is located adjacent to residential development and had been redeveloped into a golf course. Project tasks included LFG assessment, methane testing in nearby homes, installation of LFG migration probes, cover repair and ongoing cover maintenance, preparation of LFG assessment and cover maintenance plan, design and installation of LFG collection and control system to prevent migration onto residential properties, and regulatory liaison with the Orange County LEA, Santa Ana Regional Water Quality Control Board (SARWQCB), Orange County Integrated Waste Management Department (OCIWMD), CIWMB, and SCAQMD.

Environmental Investigations and Risk Assessment for Former BKK Main Street Landfill, West Covina, CA (SWIS # 19-AQ-0014). The landfill was a closed site that received both hazardous and nonhazardous wastes; at the time, it was occupied by two golf courses and additional commercial and residential developments and was considered for redevelopment. The project work at the facility

had included completion of soil vapor extraction (SVE) surveys, installation and monitoring of LFG migration probes, LFG sampling/analysis, oversight of cover and subsurface soil and groundwater sampling, completion of an HHRA, CEQA assistance, and negotiations with regulatory agencies. The site was considered for listing on the National Priorities List (NPL) as a potential Superfund site. Oversight of the landfill was provided by EPA Region IX, DTSC, and the Los Angeles County landfill LEA.

Landfill Investigation and Human Health Risk Evaluation/Impact Assessment for Proposed Residential Development Adjacent to a Landfill, Union City, CA. The project included completion of various soil, LFG, and groundwater investigations, and development of two risk assessments to support the development of residences adjacent to the landfill, as well as clean closure of a portion of the site for additional residential development on site. SCS also provided CEQA assistance for the proposed developments.

New Source Performance Standard (NSPS) LFG Sampling and Analysis for Multiple Landfills, Kern County, CA. For this project, Mr. Huff conducted NSPS Tier 2 LFG sampling and analysis in accordance with federal NSPS regulations at four landfills in Kern County. He performed field investigations in 1998 and resampled three of the four landfills in 2003 in accordance with federal resampling procedures set forth in NSPS regulations. In addition to conducting the field investigations, Mr. Huff completed statistical analyses of raw analytical data, and authored the final data reports submitted to the EPA.

HHRA

HHRA for Proposed Residential Development at Former Crude Oil Tank Farm, Norwalk, CA. For this project, Mr. Huff performed an assessment that included an HHRA and an evaluation of the potential human health impacts associated with a neighboring crude oil storage facility to support residential redevelopment of the site. The risk assessment included evaluation of a disposal area for oil field wastes, and was performed as part of the CEQA process for site redevelopment.

Environmental Investigations and Risk Assessment for Former Landfill, Los Angeles County, CA. This landfill was a closed site that received both hazardous and nonhazardous wastes; at the time, it was occupied by two golf courses and additional commercial and residential developments and was considered for redevelopment. Project work included completion of SVE surveys, installation and monitoring of LFG migration probes, LFG sampling/analysis, oversight of cover and subsurface soil and groundwater sampling, completion of an HHRA, CEQA assistance, and negotiations with regulatory agencies. The site was considered for listing on the NPL as a potential Superfund site. Oversight of the landfill was provided by EPA Region IX, DTSC, and the Los Angeles County landfill LEA.

Creation of Baseline HHRA and Ecological Risk Assessment for Former Rocket Manufacturing Facility, Van Nuys, CA. The facility was undergoing site mitigation under RCRA. Contaminants at the site included heavy metals, pesticides, PCBs, hydrazine, and VOCs. The ecological risk assessment included terrestrial ecosystems.

Investigation of Former Oil Refinery, Central CA. As Key Field Geologist, Mr. Huff conducted remedial excavations of lead-impacted soils, in addition to planning, scheduling, and coordinating quarterly sampling of 73 multi-aquifer groundwater monitoring wells located in and around the site. He also designed and installed 16 groundwater monitoring wells located in 3 different aquifers for contaminant plume tracking and remediation, and compiled data and prepared reports for submittal to the regulatory agency.

Creation of Baseline HHRA and Ecological Risk Assessment for Former Electronics Manufacturing Facility, Los Angeles, CA. Contaminants at the site included chlorinated solvents. The ecological risk assessment included terrestrial ecosystems.

HHRA and Impact Assessment for Proposed Commercial Developments Adjacent to Former Hazardous Waste Landfill, Southern CA. The site contained two landfills, one municipal solid waste landfill and one hazardous waste site, which were under the oversight of the DTSC. Mr. Huff completed various investigations and data reviews/analyses of soil, surface water, groundwater, LFG, and air quality. The data were used for the completion of an HHRA in support of the CEQA process for a proposed golf course and business park development on the Class III landfill.

Remedial Oversight for Cleanup of Former Petroleum Refinery and State Superfund Site, Southern CA. As Key Field Geologist, Mr. Huff provided remedial oversight for cleanup of more than 1,000,000 cubic yards of contaminated soils excavated for on-site treatment using bioremediation and vapor extraction.

Investigation, Risk Assessment, and Remediation Feasibility Study for Former Landfill, San Diego County, CA. Mr. Huff developed the LFG sampling portion of the site assessment work plan for the former landfill site, which was located next to a river, bay, and amusement park and was used heavily for recreational purposes. The field investigations were followed by a risk assessment, and, given the highly visible and public nature of the landfill project, focus on risk communication was the primary importance. Ultimately, several candidate risk-based remediation methods applicable to the site were identified with typical costs associated with each method. The project included interface with multiple regulatory agencies. Site investigative activities included preparation of work plans, conducting soil gas surveys, installation of soil borings and subsequent sampling, evaluation of applicable remedial alternatives, and assessment of hydrocarbon contaminant plumes from a variety of sources, including leaking underground storage tanks (USTs), aerospace facilities, and former petroleum refineries.

Greenhouse Gas

- CARB – Mandatory Reporting Verification Projects
- Agrium US Inc.²
- Alameda Municipal Power¹
- Biggs Municipal Utility¹
- Bonneville Power Administration¹
- Burney Forest Products
- Cal Portland Company – Mojave Plant²
- Cal Portland Company – Colton Plant²
- California Institute of Technology
- California Steel Industries
- Carlton Forge Works
- City of Corona¹
- City of Lompoc¹
- City of Roseville, CA¹
- City of Ukiah, Electric Utilities Division¹
- City of Victorville¹
- Collins Pine Company
- Corn Products
- Exide Technologies²
- Flint Hills Resources¹
- Gridley Electric Utility¹
- Georgia Pacific
- Healdsburg Electric Department¹
- Hilmar Cheese Company
- IHI Power Services Corp¹
- Imperial Irrigation District¹
- Imperial Irrigation District – Coachella Gas Turbines
- Imperial Irrigation District – El Centro Generating Station
- Imperial Irrigation District – Niland Gas Turbines Plant
- Imperial Irrigation District – Rockwood Gas Turbines
- JP Morgan Chase Bank¹
- Kinergy¹
- Lodi Electric Utility¹
- Loma Linda University¹
- Lehigh Hanson²
- Metropolitan Water District¹
- Midway Sunset Cogeneration Company
- MillerCoors
- National Cement Company²
- New-Indy
- Noble Petro Inc.¹
- Orange County Sanitation District
- Olam West Coast, Inc.
- Pacific Ethanol¹
- Pacific Gas and Electric Company^{1,3}
- Port of Oakland¹
- Pearson Fuels¹
- Port of Stockton, CA¹
- Qualcomm
- Renewable Energy Group¹
- Riverside Wastewater Treatment Plant
- River City Petroleum³
- San Francisco Hetch Hetchy Water & Power¹
- Shell Energy North America¹

- Shell U.S. Trading Company¹
- Signal Hill Petroleum³
- Silicon Valley Power¹
- Southwest Gas Corporation³
- Truckee Donner Public Utility District¹
- Temple Inland
- Tesoro Refining & Marketing Company²
- Timco Standard Tandem Alapse, Inc.
- United Pacific Energy¹
- University of California at Davis
- University of California at Irvine
- University of California at Santa Cruz
- University of California at San Diego
- Western Area Power Authority¹
- Wonderful Pistachios & Almonds

¹ Verification includes electrical/fuel transactions.

² Verification included process emissions (landfill, wastewater treatment, geothermal, or other process emissions).

³ Verification includes oil and gas emissions.

CARB – GHG Offset Verification Projects. Includes offset verification for livestock, ozone depleting substances (ODS), and mine methane capture (MMC) projects:

- A-Gas O'Hare Project CAOD5340
- A-Gas 2017-1 Project CAOD5298
- A-Gas Americas 2017-2 Project CAOD5318
- A-Gas Americas 2017-3 Project CAOD5320
- A-Gas Americas 2015-1 Project CAOD5185
- DPC ODS Destruction Project #4 CAOD0067
- DPC ODS Destruction Project #5 RP1 CAOD0068
- DPC ODS Destruction Project #5 RP4 CAOD0068
- DPC ODS Destruction Project #6 CAOD0084
- DPC ODS Destruction Project #12 CAOD0061
- DPC ODS Destruction Project #13 CAOD0062
- DPC ODS Destruction Project #20 CAOD5066
- DPC ODS Destruction Project #21 CAOD5078
- DPC ODS Destruction Project #22 CAOD5190
- Elk Creek Coal Mine Methane Destruction and Utilization Project CAMM5173
- A-Gas RemTec 2014-3 Project CAOD5092
- ClimeCo ODS Destruction 16 and 17 CAOD5222
- Diversified Pure Chem (DPC) Domestic ODS Destruction Project #11 CAOD0019
- Environmental Credit Corp. (ECC) American Carbon Registry (ACR) ODS 2012 Project ECC ODS ACR 2013 Project CAOD5013
- ECC ODS PA-003 RP1-3 CAR CAOD0006
- ECC ODS Destruction 2-2014 CAR CAOD5059
- ECC ODS Destruction 11-2013 CAOD5033
- ECC Sunnyside Farm Project CALS0119
- Solvay Chemicals, Inc. Waste Mine Methane Project
- Sunny Knoll Farm Desktop Review
- Vamox® Demonstration Project at JWR Shaft No. 4-9

TCR – Voluntary Entity Reporting Verification Projects

- City of Davis
- Hershey Chocolate and Confectionary Corp.
- Hilmar Cheese Company
- U.S.ANA Health Sciences
- Sierra Nevada Conservancy
- University of California at Davis
- Anadarko Petroleum
- Levi Strauss & Company
- Colorado Springs Utilities
- Denver Water
- Sierra Nevada Conservancy
- The Timberland Company
- City of Chula Vista
- Metropolitan Water District
- Collins Pine Company
- North Carolina Department of Environment and Natural Resources
- Washington State Department of Ecology
- San Benito County
- City of Hollister
- City of San Juan Bautista
- University of California at Merced
- Massachusetts Department of Environmental Protection
- Hilmar Cheese Company
- University of California at Davis
- University of California at San Diego
- Anaheim Public Utilities
- City of Salt Lake City
- Irvine Ranch Water District
- University of California, Office of the President
- Virgin America
- South Carolina Department of Health and Environmental Conservation
- Clark Public Utilities
- Imperial Irrigation District

CCAR – Voluntary Entity Reporting Verification Projects

- Orange County Sanitation District
- Morningstar Packing Company
- City of West Hollywood
- El Paso Corporation
- University of California at Santa Cruz
- University of California at Merced
- University of California at Irvine
- University of California at Berkeley
- University of California at Santa Barbara
- SW Gas Corporation
- San Benito County
- City of Los Angeles
- Aquarium of the Pacific
- Anaheim Public Utilities
- Stanford University
- Collins Pine Company
- Hershey Chocolate and Confectionary Corporation
- Natomas Unified School District
- Johns Mansville
- Pacific States Environmental Contractors
- State of CA Department of General Services
- State of CA Department of Finance
- State of CA Department of Military
- State of CA Office of the Governor

CAR – Carbon Credit Verification Projects

Landfill Protocol

- Oneida-Herkimer Landfill, Ava, NY
- Davis Landfill Gas Offset Project
- Butler County Landfill Pipeline Project
- Hernando County Landfill Electric Generation
- Clinton County Landfill Methane Destruction Project
- Pine Tree Landfill Methane Destruction Project
- Finney County Landfill Gas Destruction
- Granger South Jordan Landfill Gas Destruction Project
- Steuben County Landfill Flaring Project

Livestock Protocol

- Green Meadow Farm
- George DeRuyter & Sons Dairy
- Green Valley Dairy
- Willow Point Dairy, LLC
- Central Sands Dairy, LLC
- Bridgewater Dairy, LLC
- West River Farm Anaerobic Digester Project
- Riverview Farm Anaerobic Digester Project
- Pagel’s Ponderosa Dairy

CAR GHG Reduction Services, Project Manager

Landfill Protocol

- Dalton-Whitfield Regional Solid Waste Management Authority
- L & D Landfill
- Larimer County Landfill Electric Generation Project
- Hay Road Landfill Feasibility Study
- YSDI Landfill Feasibility Study
- Central Landfill, Citrus County, Florida
- Raleigh County Solid Waste Authority
- Pendleton County Landfill
- Eagle Point, Wolf Creek, and Stones Throw Landfills

Kern County Waste Management Department, GHG Emissions Inventory of Creditable GHG Reductions. Mr. Huff performed GHG emission inventory services of creditable GHG reductions.

City of Fresno Wastewater Treatment Plant (WWTP), AB32 Mandatory Reporting, Fresno, CA. Mr. Huff assisted in the completion of AB32 Mandatory reporting for the WWTP, and six active landfills for Waste Management, Inc.

GHG Inventory and CAR Reporting, CA. Mr. Huff completed GHG inventory for Los Angeles County, City of Carlsbad, CA, and Republic Services, Inc.

Specialized GHG Inventory Calculations. Mr. Huff assisted in the completion of multi-year specialized GHG inventory calculations for landfill emissions (carbon dioxide and methane) for Waste Management.

GHG Inventory Consulting. Mr. Huff provided GHG inventory consulting for the Los Angeles County and City of Carlsbad GHG Inventory Consulting.

Software Testing and Evaluation. Mr. Huff provided software testing and evaluation of the Climate Action Reserve emissions tracking and trading software.

Expert Testimony

2013 – Mr. Huff was an expert witness in regard to GHG credit dispute for confidential client. His work included rebuttal of plaintiff expert opinions, including deposition, arbitration testimony, and open-court testimony.

2015 – Mr. Huff was an expert witness in regard to LFG monitoring data interpretation for confidential client within state court. His work included preparation of exhibits and affidavits used for rebuttal of plaintiff expert witnesses.

Storm Water

Mr. Huff has been involved in numerous projects related to compliance with water and wastewater discharge limitations, including storm water and wastewater compliance sampling and discharge monitoring. His expertise allowed him to be the Lead Staff personnel on a variety of projects related to water quality, storm water, and wastewater, as well as additional environmental issues. He has participated in the following projects and studies:

- Engineering design, design review, and construction management for industrial wastewater pretreatment systems at industrial and commercial facilities.
- Pollutant loading and flow rate assessments for wastewater conveyance systems at industrial facilities.
- Development of wastewater sampling manuals and training of industrial facility personnel in proper sampling techniques.
- Installation, monitoring, and sampling of well systems to determine surface infiltration rates and the presence and nature of subsurface contaminants in groundwater.
- Performance of regulatory compliance audits, facility permitting, and interface with local, state, and federal agencies to ensure compliance with all applicable rules and environmental regulations.

Groundwater

Mr. Huff has a background in geology and paleontology. Since joining SCS, he has been involved in numerous projects related to investigation of sites with contaminated soil and groundwater.

His participation includes:

- Key Field Geologist in remedial oversight for cleanup of a state Superfund site located in Southern California. More than 1,000,000 cubic yards of contaminated soils were excavated for on-site treatment using bioremediation and vapor extraction.

- Planning and direction of field investigations of hazardous waste sites to identify and characterize contaminants in soil and groundwater.
- Assessment of hydrocarbon contaminant plumes from a variety of sources, including leaking underground storage tanks (LUSTs) and former petroleum refineries.
- Site investigative activities, including preparation of work plans, conducting soil gas surveys, installation of soil borings and subsequent sampling, and evaluation of applicable remedial alternatives.
- Installation, monitoring, and sampling of well systems to determine the presence and nature of subsurface contaminants in groundwater.
- In-field design and installation of vapor extraction systems for the remediation of volatile contaminants in subsurface soils.
- Preparation of health and safety (H&S) plans submitted for regulatory approval. This includes hazardous waste characterizations, emergency response planning, establishing site operating procedures, and field implementation of H&S plans.
- Preconveyance environmental assessments of properties prior to real estate transfer. The projects consist of evaluating past on-site operations, identifying potentially contaminated sites, record searches of files maintained by regulatory agencies, and collection and analysis of groundwater quality information, where applicable.

Additional Project Experience

- In-field design and installation of SVE systems for the remediation of volatile contaminants in subsurface soils.
- Planning and direction of field investigations of numerous hazardous waste sites to identify and characterize contaminants in soil and groundwater.
- Preparation of H&S plans submitted for regulatory approval. This includes hazardous waste characterizations, emergency response planning, establishing site operating procedures, and field implementation of health and safety plans.
- Preconveyance environmental assessments of properties prior to real estate transfer. The projects consist of evaluating past on-site operations, identifying potentially contaminated sites, record searches of files maintained by regulatory agencies, and collection and analysis of groundwater quality information, where applicable.

Mr. Huff is skilled in management information systems (MIS), database design, programming, and computer modeling. He is responsible for the collection, conversion, manipulation, and management of data used in risk assessments, groundwater and vadose zone migration, and water fate and transport modeling, and for designing and developing maps, cross-sections, and 3-D visualizations of surface and subsurface environments.

He also has performed project and financial management for internal and external projects using business practices and project management skills acquired during completion of his Master's degree in Business Administration.

Prior to joining SCS, Mr. Huff was affiliated with Green & Associates, an environmental consulting firm that provided services such as Phase I environmental site assessments (ESAs), asbestos assessments, and evaluation of core samples for paleontological purposes for major oil companies.

Publications and Presentations

Huff, Raymond, Leonard, Michelle, and Sullivan, Patrick, Composting Emissions Update and New Southern California Regulations, Presentation at the Annual Solid Waste Association of North America (SWANA) WASTECON Conference, St. Louis, Missouri, October 2003.

Huff, Raymond, and Sullivan, Patrick, Unique Landfill Gas Issues on Urban Inactive Landfills, Conference Proceedings, 27th Annual SWANA, Landfill Gas Symposium in San Antonio, Texas, March 2004.

Huff, Raymond, and Sullivan, Patrick, Air Quality and Odor Impacts from Landfill-Related Emissions, Conference Proceedings, Water Environment Federation (WEF) and Air and Waste Management Association (AWMA) Odor and Air Emissions 2004, Bellevue, Washington, April 2004.

Huff, Raymond, and Sullivan, Patrick, Unique Case Studies of Landfill Redevelopment in California, Conference Proceedings, 44th Annual SWANA WASTECON Conference, Charlotte, North Carolina, September 2006.

Huff, Raymond, Carbon Footprint and Impact of Biosolids, Presentation at California Water Environment Association (CWEA) Global Climate Issues Specialty Conference, Whittier, California, June 2008.

Huff, Raymond, Greenhouse Gas Credit Trading, Presentation at CWEA Global Climate Issues Specialty Conference, Whittier, California, June 2008.

Drotman, Cassandra, Huff, Raymond, and Sullivan, Patrick, New LFG Monitoring Requirements in California: More Stringent and Expensive, Conference Proceedings, 32nd Annual SWANA Landfill Gas Symposium in Atlanta, Georgia, March 2009.

Huff, Raymond, Landfill Gas to Energy Case Study, Presentation at Working Session on Methane Capture and Use, Navigating the American Carbon World Conference, San Diego, California, April 2009.

Huff, Raymond, The Business of Greenhouse Gas Emissions, Presentation at Sigma Xi Speaker Series, Loyola Marymount University, April, 2009.

Huff, Raymond, Third Party Greenhouse Gas Verification Explained, Presentation at GHG for Industry Workshop, Houston, Texas, May 2009.

Huff, Raymond, Subsurface Fire Identification, Assessment and Mitigation; A Presentation of Selected Case Studies, Presentation at the Annual SWANA WASTECON Conference, Long Beach, California, September 2009.

Huff, Raymond, and Sullivan, Patrick, Impact of Mandatory GHG Reporting on California Industry, Presentation at Industrial Environmental Association 2009 Annual Statewide Environmental Summit, San Diego, California, October 2009.

Drotman, Cassandra, Huff, Raymond, and Sullivan, Patrick, The Impact of Federal Climate Change Legislation and Regulation on the Solid Waste Industry, Conference Proceedings, 33rd Annual SWANA Landfill Gas Symposium in San Diego, California, March 2010.

Huff, Raymond, and Sullivan, Patrick, Comparison of GHG Emissions Methodologies for Landfills, Presentation for AWMA Annual Conference, Orlando, Florida, June 2011.

Huff, Raymond, Henkelman, John, and Sullivan, Patrick, Comparison of GHG Emissions Methodologies for Landfills, Presentation for AWMA GHG Strategies Conference, San Francisco, California, November 2011.

Huff, Raymond, Sullivan, Patrick, and Drotman, Cassandra, Lessons Learned from the First Two Years of Compliance with the Federal GHG Mandatory Reporting Rule, 36th Annual SWANA Landfill Gas Symposium, Las Vegas, Nevada, March 2013.

Huff, Raymond, Banister, Amy, Smith, Phillip, Wuestenberg, Niki, Sullivan, Patrick, and Henkelman, John, Lessons Learned from Federal Mandatory GHG Reporting Data Analysis for Landfills, Presentation for AWMA Climate Change Conference, Washington, DC, September 2013.

Huff, Raymond, Summary and Impacts of Upcoming Changes in Federal GHG Reporting for Landfills, Presentation at AWMA Golden Empire Chapter 2013 Technical Conference, Bakersfield, California, September 2013.

Huff, Raymond, and Sullivan, Patrick, Lessons Learned from California Methane Rule Reporting, Presentation at SWANA Landfill Gas Symposium, March 2014.

Huff, Raymond, and Wuestenberg, Nicole, Clean Air Act Compliance Issues with Subsurface Reactions, Extended Abstract and Presentation at Global Waste Management Symposium, June 2014.

Huff, Raymond, and Penoyer, David, Landfill Gas Freakometrics: Metrics-Based Management of Landfill Gas Systems across the U.S., Extended Abstract and Presentation at Global Waste Management Symposium, June 2014.

Huff, Raymond, McGarry, Josh, and Walsh, James, Overview of Operating MSW Landfills with Ongoing Subsurface Reactions, Extended Abstract and Presentation at Global Waste Management Symposium, June 2014.

Huff, Raymond, Henkelman, John, and Sullivan, Patrick, Redundancy and Inconsistency in Voluntary, State, and Federal Greenhouse Gas Reporting for Landfills, Extended Abstract and Presentation at AWMA Annual Conference, Long Beach, California, June 2014.

Huff, Raymond, Subsurface Fire Identification, Assessment and Mitigation, Presentation at SWANA Northwest Regional Landfill Gas Symposium, May 2015.

Huff, Raymond, Subsurface Fire Identification, Assessment and Mitigation, Presentation at NDSWRA Conference, September 2015.

Huff, Raymond, and Penoyer, David, Power and Pitfalls of Landfill gas Monitoring Data Analysis and Visualization Techniques – A Selection of Data Visualization Case Studies, Extended Abstract and Presentation at Global Waste Management Symposium, February 2016.

Henkelman, John, Huff, Raymond, and Sullivan, Patrick, A Look at Fugitive GHG Emissions Reporting and the Effects on Regulated Facilities, Extended Abstract and Presentation for AWMA Annual Conference, New Orleans, Louisiana, June 2016.

Drotman, Cassandra, Huff, Raymond, and Sullivan, Patrick, Impact on the Waste Industry from Proposed EG and Supplemental NSPS Rules for Landfills, Extended Abstract and Presentation for AWMA Annual Conference, New Orleans, Louisiana, June 2016.

Drotman, Cassandra, Huff, Raymond, and Sullivan, Patrick S., Best Practices Learned from Greenhouse Gas Reporting, Presentation for Air & Waste Management Association (A&WMA), A&WMA's 110th Annual Conference & Exhibition, Pittsburg, Pennsylvania, June 2017.

Drotman, Cassandra, Henkelman, John, Huff, Raymond, and Sullivan, Patrick S., An Update and Comparison on State Level Greenhouse Gas Reporting and Cap and Trade Regulations, A&WMA's Finding Common Ground on Climate Change Mitigation and Adaptation, Arlington, Virginia, October 2017.

Drotman, Cassandra, Henkelman, John, Huff, Raymond, and Sullivan, Patrick S., A Review of Regulatory and Industry Greenhouse Gas Reporting Cooperation, A&WMA's Finding Common Ground on Climate Change Mitigation and Adaptation, Arlington, Virginia, October 2017.

Drotman, Cassandra, Huff, Raymond, and Sullivan, Patrick S., Tier 4 Surface Emissions Monitoring Process and Issues, Air & Waste Management Association's (A&WMA's) 111th Annual Conference & Exhibition, Hartford, Connecticut, June 2018.