

OFFICE LOCATION

Irvine, CA

YEARS WITH FIRM

11

**TOTAL YEARS OF
RELEVANT EXPERIENCE**

18

EDUCATION

B.S., Civil Engineering, South
Dakota School of Mines &
Technology – Rapid City, SD

CERTIFICATIONS

Registered Professional Civil
Engineer, State of California,
C68579

Qualified SWPPP
Practitioner/Qualified SWPPP
Developer

OSHA 40-Hour Hazardous
Waste Operations and
Emergency Response Training

OSHA Annual 8-hour Hazardous
Waste Operations Refresher
Training

OSHA Supervisor Training

Certified ACI (American
Concrete Institute) Field
Technician – Grade 1

Telescopic Handler Forklift
Operator Training (Class 7
Gradall)

A-B-CPR & First Aid Training

Fire Safety Training, 2009

DOT Hazardous Materials
Regulations & Safety Training

Confined Space Entry Training

QED Low Flow Sampling
Training

Lockout/Tag-out Control of
Hazardous Energy Training

PROFESSIONAL AFFILIATIONS

Member, American Society of
Civil Engineers

Qualifications Summary

John Parkes is a Professional Engineer with 18 years of experience in the field of environmental engineering and construction management. John has significant expertise in soil and groundwater remediation design, field engineering and construction oversight, installation of remedial systems, and operation, maintenance, and monitoring (OMM) of various remedial systems. Additionally, John has significant experience involving drilling oversight, soil sampling, soil vapor sampling, and groundwater monitoring. John has worked closely with multiple consultants implementing large field programs for multi-party, complex sites by providing project management, system installation oversight, daily and weekly progress reports, and database management. He is proficient in AutoCAD and drafts “As-Built” drawings as well as prepares installation reports and Operation, Maintenance, and Monitoring Manuals. John has experience with numerous remedial technologies including: Soil Vapor Extraction, Groundwater Pump and Treat, High-Vacuum Dual-Phase Extraction, In-Situ Bioremediation, In-Situ Chemical Oxidation, and Thermal and Catalytic Oxidizers (Chlorinated and Non-Chlorinated Systems).

John has significant expertise and experience in the following:

- Project Management
- Health and Safety
- Construction Management and Oversight
- Groundwater Extraction and Treatment Systems – Air Stripping, Activated Carbon Pump and Treat, and Ion Resin Exchange Treatment Design, Construction, Installation, Operation, Maintenance and Closure
- Groundwater Monitoring
- Stormwater Monitoring
- Surface Water Sampling
- Soil Vapor Surveys and Sample Collection
- Soil Vapor Extractions Systems – SVE Catalytic and Thermal System Design, SVE System Construction, Installation, Operation, Maintenance and Site Closure
- Dual Phase Systems
- Free Product Recovery Systems
- Bioremediation Implementation
- Permitting
- Programmable Logic Controls and System Acquisition Data systems
- Construction Field Oversight
- Construction Reports and As-Built Drawings
- Operation & Maintenance Manuals
- Soil and Groundwater Investigations
- Soil Sample Collection
- Soil Classification during Soil Boring Activities
- Hand Auger Borings and Soil Sample Collection
- South Coast Air Quality Management District (SCAQMD) 1166 monitoring
- Excavation Projects

Key Project Experience

Santa Susana Field Laboratory – Stormwater Management

Mr. Parkes is the Project Manager for JHA providing stormwater management services at SSFL. The site, which encompasses over 2,000 acres, can discharge hundreds of millions of gallons of runoff per day during rain events. All runoff is regulated in accordance with site-specific waste discharge requirements (WDRs) in accordance with a Regional Water Quality Control Board (RWQCB) Order and a National Pollutant Discharge Elimination Permit (NPDES). John has been the Project Manager and/or technical lead for:

- Designing, installing, programming, and maintaining automatic sampling and flow measurement devices at designated stormwater outfall locations.
- Mobilizing sampling crews for all rain events to collect grab samples, confirmation samples, and document stormwater flow conditions at outfall locations and at various established points along the drainage systems.
- Monitoring and maintaining rainfall gauges and remote weather data collection systems.
- Diverting and/or capturing stormwater at specific locations and treating the captured stormwater with two separate stormwater treatment systems. Each treatment system is capable of treating over 1,000 gallons per minute and the stormwater is treated for turbidity, pH, metals, and VOCs in accordance with site-specific WDRs.
- Managing chemical, material, and generated wastes and performing periodic inventories.
- Installing, maintaining, and monitoring various stormwater control best management practices (BMPs) including stormwater retention basins, check dams, silt fences, sandbagging, fiber rolls, hydroseed/hydromulch, etc.
- Performing periodic Stormwater Pollution Prevention Plan (SWPPP) inspections including pre-rain inspections, daily during rain event inspections, and post-rain inspections.

Mr. Parkes manages a diverse staff for this project including Qualified SWPPP Developers/Qualified SWPPP Practitioners (QSDs/QSPs), Professional Engineers (PEs), Professional Geologists (PGs), Sampling Technicians, Operation and Maintenance Technicians, and subcontracted Heavy Equipment Operators and Construction Laborers.

Santa Susana Field Laboratory – AREA I Groundwater Extraction Treatment (GET) System

As the Project Manager, John has performed the construction oversight for the installation of the GET system, SCADA/PLC function testing, treatability testing and is currently performing the operation, maintenance and monitoring of a groundwater extraction and treatment system at this aerospace research facility. The 100 GPM treatment system includes a 7,500 gallon holding tank, a 9,900 gallon surge tank, two Clack Birm® media vessels each containing 60 cubic feet of Clack Birm® metals treatment media, two IX vessels each containing 60 cubic feet of ion exchange media, two 2,000 lb liquid activated carbon vessels, an low profile air stripper tower, two 2,000 lb vapor activated carbon vessels, an ultraviolet/peroxide treatment unit, and a calcium chloride injection system to increase hardness levels in the process water lowered by the IX treatment. John is responsible for submitting weekly activity reports to OMM team members giving a brief weekly summary of OMM activities at the beginning of the each week, coordinating the media change out activities and disposal of spent media through the on-site hazardous waste yard, coordination of the NPDES permit sampling with a third party consultant, including collection of a time weight composite sample using an automated sampler.

Construction Oversight services performed by John included verifying rough and final grade elevations to construction drawings, concrete slump testing and mix design per specification, HDPE and PVC pressure testing, field re-routing of piping conflicts, scheduling compaction testing, pulling construction permits and signoff of permits by inspectors. System startup included alarm testing, leak testing, instrumentation testing and VFD initial configuration. JHA created red-lined as-builts and assisted in preparation of the routine maintenance and monitoring portions of the OMM plan.

In December 2011, John oversaw the installation of an automated sulfuric acid injection system to automatically adjust the pH of the system to within the NPDES permit levels. Temporary Clack Birm® vessels were removed and permanent vessels and piping were installed and incorporated into the acid pH adjustment system.

Prior to installation of the groundwater extraction and treatment system, JHA performed a treatability test to evaluate various media for the treatment of dissolved metals. The treatability test included constructing a pilot test extraction system which included connecting the specified extraction well to a holding tank, piping from the holding tank to the media vessels and discharge piping to another holding tank for disposal. The treatment media evaluated were sand with anthracite, greensand, and ion exchange resin. JHA performed the treatability test and summarized the test results in a tech memo format. Ion exchange resin was subsequently selected as part of the final groundwater treatment system. JHA performed their work on this project within the specified budget and schedule and to the complete satisfaction of the client.

Santa Susana Field Laboratory – Outfall Automatic Sampler (Auto-Sampler) Installation and Operation

John was the project manager performing the oversight of the installation of twenty automatic storm water samplers at ten outfalls across the site. The installation included installing one high flow and one low flow auto sampler at each location. Installation included the manufacture of dedicated skids, supports, aluminum “lean-to” structures, and weather protection required to contain, maintain, and safely operate the auto sampling equipment in all weather conditions. Due to the remote locations, the auto samplers are powered by 12 volt DC batteries that are charged by solar panels installed and wired at each outfall. All skids and structures had to be fabricated out of aluminum or stainless steel due to the sensitivity of the sampling and to reduce the introduction of metals not native to the natural drainage. This was a high priority project for the client that needed to be completed in a short period prior to the first rain event of the season in 2009. The schedule was met and the project was completed within budget and without incident. John is responsible for coordination with MWH and Flow Science for recommended auto-sampler program settings prior to a rain event and collection and dissemination of flow and sampler data after an event to project team members.

John performs pre- and post-rain event activities at each of the 10 Outfall locations outfitted with auto-samplers. Pre- and post-rain event activities at the auto-samplers include receiving drum inspections including replacing the Teflon liners; peristaltic pump inspection; intake and discharge tubing inspections; flume and strainer inspections; solar panel and battery voltage testing; and auto-sampler program initialization. At the conclusion of the rain event, John is responsible for downloading and exporting the data from each auto-sampler and flowmeter, and records the flowmeter totalizer, flow rate and bubbler height. John then prepares Flow vs. Time graphs of the data for submittal to Flow Science and the storm water oversight consultant.

At the end of the rainy season, JHA disconnects, removes, and stores the autosamplers and associated equipment for the summer season to reduce UV damage to the equipment. John also coordinates the off season third party manufacturer calibration and re-certification of the autosamplers. The auto samplers have been operating for three years as specified, and the client is fully satisfied.

Santa Susana Field Laboratory – RFI Activities

Acting as the project field lead, John performed soil sampling using hand augers and/or Geoprobes at various locations at the facility in Canoga Park, California. John completed boring logs, sample trackers, photo logs and logged each location into a site dedicated GPS unit. He installed vapor probes and performed vapor monitoring using 250 cc glass bulbs for onsite laboratory analysis. John completed trench sampling along leach lines, and maintained health and safety record with no incidences.

Former Boeing Santa Monica Facility, Santa Monica, CA

John Parkes has been performing the project management for the operation, maintenance, and monitoring (OMM) of three soil vapor extraction (SVE) systems at the site, which was the location of the Former Douglas Aircraft Company (DAC) Plant A. JHA currently conducts the OMM of the systems under the oversight of Hargis + Associates, Inc. (H+A). Two of the SVE Systems are currently in operation (Airport Storage Area & Triangle). The Atlantic Aviation SVE system was decommissioned in 2011. JHA took over the OMM activities in April 2010 and has continued OMM of the systems until the present. John is responsible for submitting weekly activity reports to OMM team members giving a brief weekly summary of OMM activities at the beginning of the each week. Detailed weekly reports are submitted later in the week with all field OMM data and analytical data updated from the previous OMM visit. In addition to the weekly reports, a monthly report is submitted highlighting OMM activities within the month and providing an updated monthly Task Metric to the OMM team. John is responsible for the preparation of the Quarterly Remediation Progress Reports and the Annual Soil Vapor Monitoring Report that are submitted to the California Regional Water Quality Control Board, Los Angeles Region (CRWQCB) after review by H+A and Boeing. John coordinates GAC changeout services with the GAC contractor and makes the appropriate notifications to the City of Santa Monica, Public Works Division for traffic control. John is responsible

for coordination of the condensate waste disposal with the waste disposal contractor. John also communicates with the City of Santa Monica, Water Resources Protection Division for notifications and sewer sampling events. John participates in optimization meetings and is responsible for ensuring implementation of optimization adjustments discussed.

All the work was performed with no Health & Safety incidences, no NOV's or compliance issues and an operational up-time of 95% (for Triangle) and 85% (for ASA). The systems were designed to remove volatile organic compounds (VOCs) from the underlying soil to a depth of approximately 90 feet bgs at the site. The remediation is being conducted under the regulatory oversight of the CRWQCB and permitted to discharge treated air by Fixed Location Permits through South Coast Air Quality Management District. An Industrial Wastewater Discharge (IDW) Permit through the City Of Santa Monica allows the discharge of treated water to the sanitary sewer. The systems operate 24 hours a day, 7 days a week.

Former Boeing EDD Facility, Torrance, CA

John Parkes has been performing the project management for the operation, maintenance, and monitoring (OMM) of the soil vapor extraction (SVE) system at the Former Hughes Aircraft Company, Electron Dynamics Division (EDD). JHA currently conducts the OMM of the systems under the oversight of Hargis + Associates, Inc. (H+A). JHA took over the OMM activities in April 2010 and has continued OMM of the system until the present. John is responsible for submitting weekly activity reports to OMM team members giving a brief weekly summary of OMM activities at the beginning of the each week. Detailed weekly reports are submitted later in the week with all field OMM data and analytical data updated from the previous OMM visit. In addition to the weekly reports, a monthly report is submitted highlighting OMM activities within the month and providing an updated monthly Task Metric to the OMM team. John is responsible for coordinating site access involving many tenants (Transwestern, L3, and REEF) including specific requests to perform some of the work during second shift. In addition, John is responsible for coordination of the condensate waste disposal with the Boeing El Segundo waste coordinator (Jerrod Newlander).

JHA was responsible for the design and installation of a sound enclosure and sound baffle in an effort to mitigate noise complaints at the site. In addition, John oversaw the initial set up and programming of a new variable frequency drive (VFD) and the installation of a new blower motor, in order to increase the system flowrate. During the Soil Gas Probe (SGP) installations at EDD, John coordinated access to sensitive L3 areas for weekend work and oversaw flush mount surface completions for the SGP vaults per the clients' request. JHA received high praise for the attention to detail regarding the vault completions from Hargis + Associates, Transwestern, L3, and the property owner REEF.

All the work was performed with no Health & Safety incidences, no NOV's or compliance issues and an operational up-time of over 90%. The remediation is being conducted under a Corrective Action Consent Agreement with the California Environmental Protection Agency, Department of Toxic Substance Control (DTSC) and permitted to discharge treated air by Fixed Location Permits through South Coast Air Quality Management District. The system operates 24 hours a day, 7 days a week.

Boeing Former C-1 Facility, Long Beach, CA

John was responsible for construction oversight for a dual-phase extraction system located at a former aircraft manufacturing facility to remediate methylene chloride and VOC impacted soil and groundwater. Treatment system included a 1,000 cfm oxidizer/scrubber with NaOH injection, a water heater, two air strippers, and two 2,000-pound high-pressure activated carbon vessels. Remediation piping included installation of 4-inch HDPE double containment pipe, 2-inch PVC pipe expanding up to 12-inches at the treatment compound, and galvanized steel pipe. He also conducted daily H&S meetings, surveyed trench and pipe elevations and calculated trench depths in the field to maintain SVE pipe slopes to wells. Once the system was operational, he was responsible for the collection of data including system Programmable Logic Control (PLC) monitoring, scrubber temperatures and discharge flow rates as well as caustic consumption and pH testing of discharge water.

Boeing Former C-1 Facility, Long Beach, CA

John was the project manager for the implementation of Enhanced In Situ Bioremediation (EISB) at two locations at the facility. Each location consisted of injecting emulsified vegetable oil (EVO) through two sets of injection manifolds connected to 10 wells each. Injection activities consisted of maintaining consistent injection rates, monitoring water levels in monitoring wells, monitoring flow, pressure, and total volume of EVO injected into each well. John provided a daily database to client showing status of injection activities, issues regarding injections, and projected completion time for each injection event. One area consisted of 40 injection wells and the second area

consisted of 80 injection wells. Injections in each area were performed in two phases. John maintained an adequate supply of EVO onsite, performed daily Health and Safety meetings, coordinated personnel performing data collection, and interfaced with onsite personnel performing concurrent demolition activities at the site.

Boeing Former C-1 Facility, Long Beach, CA

John was a staff engineer providing support for a dual-phase extraction system at the facility. The system included two 1000 CFM thermal oxidizers and two 2,000-pound activated carbon vessels to remediate jet fuel-impacted soil and groundwater. John obtained NPDES permit for treated groundwater discharge. He installed and logged over 30 single and dual completion SVE wells at various locations at this facility. He performed oversight throughout the construction process to ensure that system pipelines and treatment system components were piped together and constructed per construction drawings and specifications. John documented all field changes during construction and incorporated them into as-built drawings. During the operational period, John was responsible for collecting system and well field data, submitting field data reports, and responding to calls from the SCADA auto dial phone system.

Boeing Former 717 Facility, Long Beach, CA

John was involved the field implementation of the hexavalent chromium remediation program at the facility. The in-situ chemical reduction (ICR) injections utilizing calcium polysulfide were applied to the Shallow Bellflower Aquitard as well as the Middle Bellflower Aquitard (approximately 30 to 60 and 60 to 80 feet below ground surface). John performed the construction of injection manifolds to mix the amendment solution and the installation of pumps and piping from storage tanks to injection borings to deliver reductive solution (amendment) to remediate hexavalent chromium impacted areas of the site. Approximately 900,000 gallons of amendment was injected to treat the hexavalent chromium.

Boeing Former Compton Facility, Compton, CA

John was the project engineer for field implementation of Enhanced In-Situ Bioremediation with emulsified vegetable oil (EVO) and KB-1 (a microbial culture). The remediation project was located at a divested aerospace facility in Compton, CA. The chemicals of concern consisted of chlorinated compounds primarily TCE impacting groundwater. The goal was to achieve dechlorination of TCE to non-toxic ethene. Another challenge at the site was to convert a highly aerobic aquifer to anaerobic conditions suitable for reductive dechlorination. The site was broken up into three parcels with injections occurring in two stages at each parcel. Constraints on the site included a new commercial facility that required that all equipment and materials be put staged each morning and put away at the end of each work day. In addition, due to vehicular traffic at the site, close attention to traffic was required to maintain a safe work area. The injections required pH buffering to the amendment water to aid in raising the pH of the groundwater. The EVO/buffered water mixture was injected into 47 wells, with each well receiving over 15,000 gallons of EVO/ buffered water mixture and several liters of KB-1. Implementation of EISB began in January 2006 and was completed in March 2006. EVO was injected into the wells using one 10 channel, one 12 channel, and one 14 channel, and one 4 channel distribution manifold. Injection rates ranged between 0.5 to 8.0 gpm per well. The work was performed in three stages with each stage taking approximately 3 to 4 weeks to complete. The project was performed with no health and safety incidents and the project was completed within the clients schedule and budget. John responsibilities included coordinating and managing the field crews, accepting delivery of sodium bicarbonate and EVO, coordinating activities with the new tenant on the property, and performing daily meetings with the client's on site representative. He was also responsible for weekly progress meetings to update the bio-team on the progress in the field, performed field implementation of changes to the bio program activities discussed at weekly meetings and maintained the bio program on the projected schedule. John also submitted daily data summaries to the client for review and field modifications.

Boeing Former C-1 Facility, Long Beach, CA

In supporting the leak testing and soil gas sampling program at the facility, John performed leak testing of 16 soil gas probes (SGPs), performed quarterly sampling of the soil gas probes, and provided the field data for report after the completion of the sampling event.

Boeing Former C-1 Facility, Long Beach, CA

As the field project engineer, John performed soil vapor surveys in Long Beach, California. The soil vapor surveys were performed to investigate the vapor concentrations of the chemicals of concern and help determine extraction well design for soil vapor extraction systems. He performed permit procurement, oversaw installation of soil vapor probes, performed vapor sampling, performed daily safety meetings at the site, recorded daily activities and completed field forms and assisted in the report preparation.

Boeing Former C-1 Facility, Long Beach, CA

John performed the implementation of a data gap sampling program at the facility in Long Beach, California. The program was implemented to provide additional assessment to fill in data gaps from previous soil investigations. John performed permitting, supervised the advancement of 100 Geoprobe, collected soil samples, and completed daily health and safety tail gate meetings and field activity logs for the implementation of the program.

Boeing Former Seal Beach Facility, Seal Beach, CA

As a project engineer, John collected soil samples to investigate areas of concern identified in a Phase I Site Assessment at the aerospace facility in Seal Beach, California. He assisted in the staking of sample locations, advancement of soil borings, and collection of soil samples for analysis. John documented site activities and provided daily field logs at the end of each work day.

Boeing Former C-1 Facility, Long Beach, CA

As a staff engineer, John provided support for a bio-augmentation/injection system at the facility. The injection system was constructed inside of a portable metal storage container. John was responsible for slight design changes to fit PVC injection piping inside the metal container, layout of 1000 ft of 2-inch HDPE above ground injection pipe with engineered "S" curves, construction oversight of HDPE installation as well as galvanized pump installation with associated down-well galvanized pipe. Construction took place while demolition was underway and coordination and compliance with the demolition contractor was performed on daily basis.

Maintenance Facility

John was responsible for the remediation design and project management of a dual phase (DPE) system for the remediation of a free product and dissolved petroleum plume at a Los Angeles Sheriff's Station Maintenance facility. In addition, his responsibilities included data base management, reporting, and being the single point contact for client. The DPE system required routine operation, maintenance, and monitoring (OMM) activities provided on a daily then weekly basis based on the SCAQMD permit requirements. The site is under the oversight of the Los Angeles Regional Water Quality Control Board. The operation, maintenance and monitoring program continues with a 90% uptime or better.

Superfund Site

John prepared the "as-built drawings" and OMM Manual at the Superfund Site. The Superfund Site is comprised of 1.4 acres located in a mixed industrial and residential neighborhood in Maywood, Los Angeles County, CA. This site was under the oversight of the Environmental Protection Agency and the Army Corps of Engineers. As a Field Engineer, John performed oversight of the installation on all groundwater pumps and wellhead completions for 33 well locations including fabrication/installation of system component to component conveyance piping for compressed air, natural gas, water, and vapor. He set and "tied in" all the system components at the treatment compound location. John provided support for the function testing and optimization of the PLC sensors, controls and instrumentation. He performed the function tests, optimized and commissioned all the individual components separately as well as under PLC controlled operation. John corrected, repaired and resolved operational issues during start-up and shakedown. John was also commissioned to train the EPA approved consultant on the PLC and SCADA systems and the OMM prior to initiating the thermal remediation project upstream from the system that would treat the waste streams generated from the thermal process.

Southern California Energy Facility

Project Engineer for a free product recovery system for a major southern California energy company. The site had three to ten feet of jet-A fuel existing as free product at a depth of approximately 69 feet below grade from a pipeline release. The free product was pumped, utilizing product skimmers, to an above ground storage tank to be refined and recycled. The vapors from the soil were treated with a Thermal Oxidizer connected to the recovery wells. John was responsible for system design, permitting, and ensuring that the system was constructed in accordance with construction drawings and project specifications. Documented pressure testing and backfill soil compaction tests for compliance with city of Carson Permits. Responsible for system startup and commissioning, SCAQMD permit compliance, and collection of laboratory samples for permit requirements. Prepared construction report and as built drawings on AutoCAD as well as quarterly monitoring reports submitted to Los Angeles Regional Water Quality Control Board.

Cement Manufacturing Plant

John supported the successful closure of three abandoned landfills at a southern California cement manufacturing plant. The clean closure procedures involved excavating approximately 25,000 cubic yards of soil and debris

containing hazardous kiln brick, waste oil drums, and VOC-impacted soil. His responsibilities included waste segregation, soil verification sampling, coordination of off-site disposal of materials, and site restoration.

Manufacturing Facility

John was the field engineer for a large-scale soil excavation project involving methylene chloride and VOC impacted soil from a former grease and solvent manufacturing facility. John was responsible for determining locations of auger excavations, daily SCAQMD 1166 monitoring of auger excavations, soil sampling and compliance with Regional Water Quality Control Board officer who was on site daily throughout excavation activities.

Retail Petroleum Facilities

As a staff engineer, John was responsible for the design and installation of a variety of small SVE systems for retail petroleum sites using carbon adsorption and thermal oxidation technologies. John obtained all necessary air permits from the SCAQMD. He performed site assessment activities such as: soil vapor surveys for vapor plume delineation, installed soil borings and performed sample collection using hand augers. During the soil boring activities, John performed the soil classification of the soil.