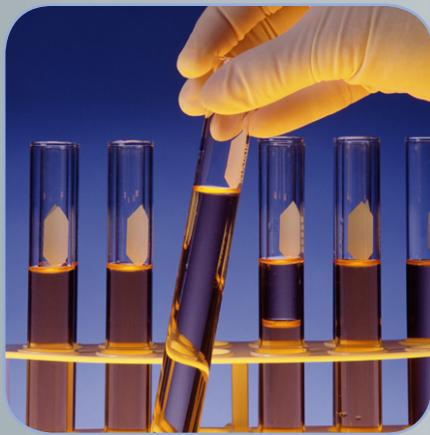


*Mojú*

ENVIRONMENTAL  
TECHNOLOGIES





#### Corporate Office

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315 Washington St, #200  
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(001) 510 874-5400 phone  
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## MOJU ENVIRONMENTAL TECHNOLOGIES

***Moju Environmental Technologies is a California based company with over ten years experience in engineering and operating hazardous and solid/liquid waste facilities. Other offices and facilities are located in the State of Washington and Nigeria.***

Our multidisciplinary team of highly qualified professionals offers a range of services, from consultation on environmental and health issues to the remediation of hazardous waste problems and certified R&D laboratory analyses. We also develop and apply cost effective, expedient technologies for the design, construction, and operation of waste management systems.



***The company is organized into four groups:***

- Remediation and solid waste management
- Engineering
- Chemistry and microbiology
- Hydrogeology and hydrology.

Emphasis is placed on communication and collaboration among the staff, and Moju is proud of the successful teamwork that the work environment fosters.

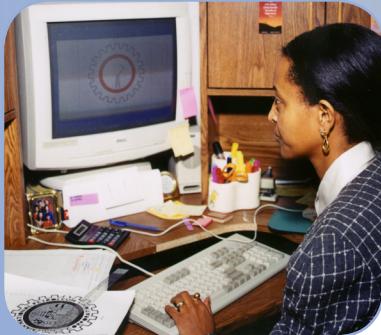
## CAPABILITIES & SERVICES



- Remedial Investigations/ Feasibility Studies
- Laboratory Services
- Environmental Impact Assessments
- Environmental Toxicology
- Solid Waste Management / Landfill Closure
- Remediation Technology Development
- Remedial Design
- Wastewater Management

*These are some of the areas we specialize in. For a complete up-to-date list of our clients, projects, and references please call, fax or email a request.*

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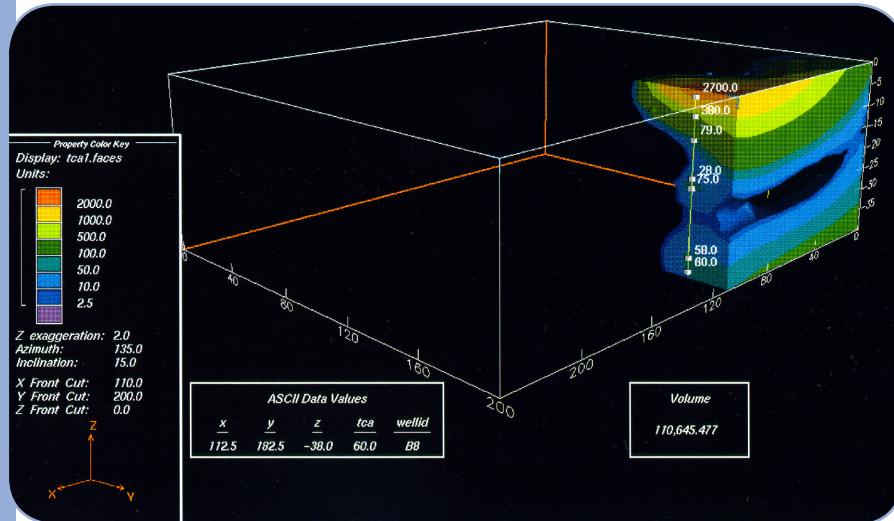


## FEASIBILITY STUDIES

**MOJU has in-house software capabilities for database management, and graphics including AUTOCAD and GIS for map representation of contaminant plumes.**

Our staff uses validated data to screen for potential human health and environmental risk for contaminants of concern. Computerized data management systems are used to compile and interpret the spatial distribution and concentration of contaminants.

A feasibility study is usually performed to identify appropriate remedial objectives, evaluate remedial options and recommend a remedial alternative. Factors considered in evaluating remedial options include: site geology and hydrogeology, risk assessment data, present and future site use requirements and remedial costs. Field aquifer testing or bench/pilot-scale treatability may be conducted on selected remedial options to obtain remedial design parameters. Fate and transport studies may also be conducted for remedial design purposes.



## REMEDIAL INVESTIGATIONS

**Moju's field investigation designs can include:**

- Geophysical surveys
- Soil gas surveys
- Well installation
- Air, soil, surface water and groundwater sampling
- Waste characterization and quality control project and sampling plans.

Moju's fixed and mobile analytical laboratories facilitate expeditious and efficient remedial investigation projects. Our staff also utilizes independent certified analytical laboratories.



## LABORATORY SERVICES

### SERVICES

#### Analytical Services

- Mobile Laboratory Services
- Real-time Results
- Water Analyses
- Soil Analyses
- TCLP Testing
- Solvents
- PCBs
- Petroleum Hydrocarbons
- Air Monitoring
- Sample Collection
- Treatability Studies

### ANALYTICAL TESTING

The laboratory offers real-time analytical results for both site investigation and site remediation projects, thereby providing the analytical data necessary to make timely field decisions to help meet project schedules. Our mobile laboratory, contained in a 30-foot trailer, is currently stationed at our offices in Warri, Nigeria.

### EQUIPMENT AND INSTRUMENTATION

The GC system is also equipped with purge and trap instrumentation. The equipment is capable of performing volatile organic, semi-volatile organic, chlorinated pesticide, and TPH (gasoline)/TPH (diesel) analyses, following U.S. EPA methods.



### TREATABILITY

A typical study involved DDT-affected soil from a former nursery which was converted to residential development. Another study made final recommendations for remediation of sediments contaminated with crude petroleum in the Niger Delta. Our laboratory R & D projects have included the design of bench-scale leachability study apparatus and large-scale supercritical fluid extraction of contaminants from soil.



## ENVIRONMENTAL IMPACT ASSESSMENTS

### ENVIRONMENTAL SITE ASSESSMENTS

Our ESAs conform with the standard for performing "due diligence" and include historical use surveys, site and facility inspections, regulatory compliance searches, potential environmental impairment source locations and evaluations and remedial investigation recommendations.

### REGULATORY COMPLIANCE

We are recognized experts and remain current in the ever changing field of environmental statutes. This enables MOJU to effectively comply with the latest requirements of many laws, including the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA).

## SERVICES

### Environmental Site Assessments

- "Due Diligence" Assessments
- Historical Use Research
- Aerial Photograph Reviews
- Insurance Map Reviews
- Interviews
- Record Searches
- Site Visits
- Soil Sampling
- Water Sampling
- Report Preparation

### Regulatory Compliance

- Permitting Assistance
- Impact Analyses
- Negative Declarations
- Findings of No Significant Impact
- Environmental Assessments
- Regulatory Action Plans

### Mitigation Planning

- On-Site Options Evaluations





## ENVIRONMENTAL TOXICOLOGY

### RISK ASSESSMENTS

Our risk assessment procedures encompass traditional human health risk evaluation, ecological risk, engineering or Monte Carlo Analysis and risk communication programs.

Ecological risk assessments are being required with increasing frequency, partly because it is now widely recognized that natural biotic communities act as early warning systems for effects on humans. Moju's team of toxicologists, biologists and environmental chemists can take an eco-risk assessment from defining endpoints and gathering data to making final recommendations on management strategy.

### PRELIMINARY ENDANGERMENT ASSESSMENTS

MOJU prepares Preliminary Endangerment Assessment Reports (PEA's) for many different types of sites to determine whether or not current or past activities have resulted in a release or threatened release of hazardous substances.



### HEALTH & SAFETY

MOJU prepares site health and safety plans for all types of activities, including ongoing operations as well as site investigation and clean up projects. MOJU also prepares Injury and Illness Prevention Programs, Hazard Communication Plans, Hazardous Material Management Plans and Emergency Response Plans for various facilities, in compliance with local, state and federal requirements.

## SERVICES

### Environment Site Assessments/ Risk Assessments

- Ecological Risk Assessments
- Risk Management Strategy
- Hazards Identification
- Fate and Transport Studies
- Water, Soil and Air Transport Modeling
- Permissible Exposure Limits
- Maximum Contaminant Levels Risk Communication

### Preliminary Endangerment Assessments

- Historical Use Research
- Hazardous Waste/Substance Identifications
- Site Inspections
- Geologic Investigations
- Critical Habitat Identifications
- Contaminant Pathway Evaluations
- Sampling Plans
- Soil and Water Analyses
- Screening Values
- Screening Risk Assessments

### Health and Safety Plans

- Injury and Illness Prevention
- Hazard Communication Plans
- Emergency Response Plans
- Hazardous Material Management Plans



## SOLID WASTE MANAGEMENT

### SOLID WASTE ENGINEERING

**MOJU's engineering services include landfill siting, landfill design, and monitoring of landfill gas and leachate, as well as investigation and mitigation design for landfills exhibiting compliance problems.**

Innovative design combined with a thorough familiarity with solid waste regulations and ancillary regulations, such as the Clean Air and Clean Water Acts, enables MOJU's solid waste team to structure cost effective solutions which mitigate problems resulting from non-complying landfill discharges to the environment.

### LEACHATE AND GAS COLLECTION SYSTEMS

MOJU designs both retrofit and new cell landfill gas collection and isolation systems. Composite cap and liner design and construction services provided by MOJU allow landfill operators to deal with unanticipated constraints quickly, thereby avoiding liability and assuring that service to the community is not interrupted.



MOJU's innovative landfill gas and leachate collection system designs meet existing regulations at the lowest possible cost and are capable of upgrade at minimal cost to meet future anticipated regulatory discharge constraints.

Our designs incorporate flexibility into landfill gas collection systems that allow these systems to be integrated into future site development options.

MOJU is fully staffed with trained, certified and experienced field professionals and technicians to service operating systems and to monitor active as well as closed sites. MOJU monitors gas emissions and leachate to groundwater at landfills throughout the western United States.

### SOLID WASTE MANAGEMENT AND SITE CLOSURE PLANNING

MOJU provides overall management planning for solid waste districts including collection, transportation, landfilling, recycling and waste minimization projections and budgets. MOJU's extensive experience with regulatory processes is utilized to project future compliance obligations, and to advise clients on strategies for minimizing their costs.



## WASTE TREATMENT TECHNOLOGY

### SERVICES

**MOJU develops and applies new technologies for remediation of soil, water and solid materials containing hazardous chemicals. Technology development and application is central to Moju's capacity to obtain site closure.**

### TREATABILITY LABORATORY FACILITIES

**MOJU treatability studies include research on phyto-remediation, which is being conducted at the University of Wyoming, and soil remediation at our laboratories in California and Nigeria.**

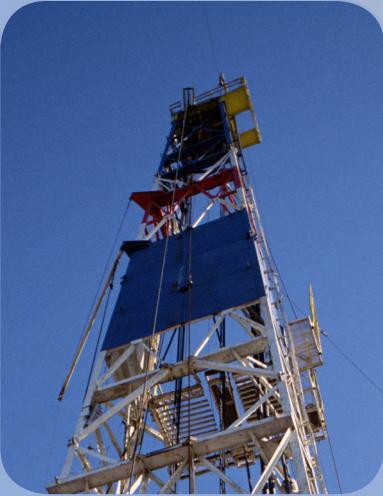
Some of the technologies being tested at these facilities include plants that selectively accumulate heavy metals from contaminated soil and surface-/ground-water, and optimization of bioremediation, thermal desorption, soil washing and vapor extraction techniques.



### MOJU'S PROPRIETARY TECHNOLOGIES

- Slurry bioreactor and solid-phase bioremediation and bioventing.
- Chemical soil separation including by soil washing.
- Chemical complexation and detoxification.
- Super-critical fluid extraction, using CO<sub>2</sub> and NH<sub>3</sub> fluid.
- Phyto-remediation using metal-accumulating plants.





## REMEDIAL DESIGN

*Moju uses a common sense approach to remedial design. If the problem is routine, then the use of standard proven available technologies and prescribed solutions is often appropriate.*

Project specifications are prepared using a combination of standard specifications and customised specifications to match the requirements of a specific project. Moju has experience in developing process-related material, equipment, and installation specifications to address specific design requirements.

Documentation control reviews are conducted to ensure that documentation control procedures are adhered to and documentation files are correct.



## SERVICES

### Remedial Design

- Site Layouts
- Innovative Technologies
- Feasibility Studies
- Conceptual Designs
- Detail Designs
- Dewatering Plans
- Shoring/Bracing Designs