



EXCALIBUR GROUP, LLC

ENVIRONMENTAL CONSULTANTS, ENGINEERS & LIABILITY MANAGEMENT EXPERTS

ENVIRONMENTAL LIABILITY & ASSET MANAGEMENT

Case 1: Strategic Corporate Asset Management - Multiple States for Asian Multinational

EXCALIBUR works for one of the world's largest multinational companies headquartered in Tokyo, providing strategic senior-level asset and environmental liability management advice and services concerning portfolios of legacy environmental liabilities and other investments throughout the United States and Canada. **EXCALIBUR** also closely works with the corporate client and their legal advisors to assess the operations, compliance status, contamination liabilities, and on-going environmental engineering and site cleanup efforts at scores of industrial, waste management and disposal sites across the United States.

EXCALIBUR's prime directive is to minimize the client's environmental liabilities while maximizing their assets and cost savings. In this capacity, **EXCALIBUR** serves in one of three site-specific roles, either as their: 1) Senior Technical Advisor to guide and work with existing site contractors in their investigating, engineering, remediating and managing environmental contamination and compliance liabilities at impacted facilities; or as 2) Project Manager/ Engineering-advisor, leading the technical project and site closure effort, or as the client's 3) Corporate PRP representative tasked with representing the best interests of the client while establishing strong, positive team relationships with the other PRPs to develop, negotiate, and implement winning remediation and closure approaches that more efficiently and cost effectively comply with written regulatory orders and obligations as compared to less-than-optimal work orders having been in place at Superfund and similarly designated regulated sites. Cost savings and other tangible benefits realized by **EXCALIBUR's** asset and environmental liability management services include:



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- Developing and negotiating a risk-based site closure approach with the USEPA and Ohio EPA to replace a technically deficient and outdated landfill extraction/ treatment/ monitoring approach that when completed will reduce overall approved site closure by \$2M and several years.
- Saving \$600,000 in obtaining site closure approved by the Pennsylvania Department of Environmental Protection, the Army Corps of Engineers and municipal authorities through improved civil engineering designs, better storm water controls, inappropriate project management, redundant reporting, unnecessary environmental permitting, excessive security, more accurate invoicing, and other unreasonable costs proposed by incumbent program contractor.
- Saving nearly \$200,000 in excessive geotechnical slope stability studies;
- Reducing budgeted costs by \$500,000 by technically justifying a reduced area for excavation, demonstrated applicability of less stringent cleanup standards, reduced regulatory reporting, better waste management and disposal options, and other measures approved by the New Jersey Department of Environmental Protection;
- Saving over \$150,000 at an impacted production site in California regulated by two state agencies through negotiating risk-based closure approaches over disruptive excavation, reduction in regulatory reporting, compressing significant regulatory reports into more streamlined documents for more efficient approval and other measures; and
- Distinctively reinvigorating and implementing an expanded strategy and all consulting and engineering steps needed to obtain closure of an impacted industrial site in Florida resulting in an approved Florida Department of Environmental Protection Site Rehabilitation Completion Order.



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Case 2: Asset & Environmental Liability Management for Investment Bank

In the process of foreclosing on environmentally impaired assets in its \$2 billion loan portfolio of over 3,000 commercial properties, **EXCALIBUR's** client has acquired certain site and environmental liabilities requiring careful and systematic management. **EXCALIBUR** serves as the lender's environmental liability & asset manager / senior technical advisor, providing critical information on known site conditions, compliance, and other factors important in the investment bank's compliance with applicable regulations and in business decisions.

In this capacity, **EXCALIBUR** is responsible for translating the Phase I ESA report findings & conclusions into what is required to maintain site security and compliance with environmental regulations. Whereas **EXCALIBUR's** client had been reasonably cognizant of the potential contamination liabilities associated with UST sites, it did not fully appreciate the potential compliance liability risks in assuming the regulatory status as the new UST owner/operator (through foreclosure). As a result, during the first two years of program support to its client, **EXCALIBUR** worked with local UST services and environmental contractors to address and thereby relieve its client of many UST compliance obligations at former/abandoned retail gasoline stations where it had previously taken title. Services to address this need ranged from ongoing monitoring of USTs in temporary out-of-service status, replacement of inoperative leak detection and/or corrosion protection systems to removal of UST systems and navigating through liability protections afforded under state and federal law for secured creditors. Through **EXCALIBUR's** guidance its client came to recognize its potential compliance liability exposure could easily exceed its contamination liability exposure at UST sites leading to its subsequent policy decisions to opt out of foreclosing on loans secured by retail gasoline stations in favor of recouping its losses by other means.



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EXCALIBUR's client testified to **EXCALIBUR**'s value in helping it meet its business objectives: *"...to quickly distill and communicate which environmental issues may affect our foreclosure decisions has been particularly helpful...Excalibur has helped us focus, standardize and strengthen our environmental due diligence procedures...and [has helped us] to define and quantify environmental liabilities on a site-specific and policy basis. This has been an enormous help to our asset managers and management team as we contemplate foreclosure or other loan level decisions... and [has] helped us in our objective to realize maximum asset recovery on our defaulted loans..."*

Case 3: Re-designation of Impacted Industrial Legacy from a Liability to a Commercial Asset, Cleveland, Ohio

For a 12-acre legacy, "flat-lotted" industrial RCRA Corrective Action site with residual coal tar and other contamination, **EXCALIBUR** provided site management, site security, regulatory interface, community outreach, environmental consulting, investigative, compliance, and remedial design review, engineering and other support services to assist the client in meeting their ultimate goal of obtaining the Ohio EPA's approval that all of the state's and US EPA's RCRA Corrective Action requirements had been met, thereby opening the door to site sale, leasing and/ or re-development.

Meeting this steep corporate goal required interpreting the correct information from the large existing site record, collecting new information on the site conditions and risk profile, and close coordination with the client and multiple regulatory authorities to assist in their preparation of the ultimate Decision Document that allowed the client to proceed with the defined remedy and exploration of their best commercial sale, lease, and re-development option(s).



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EXCALIBUR managed all aspects of the legacy site while it conducted key site sampling, analyses and other studies to enable the Ohio EPA to prepare a prerequisite Statement of Basis document sufficiently thorough enough that no comments were received on the formal public notification. Afterwards **EXCALIBUR** continued to support the client through the next stages of state regulatory approvals that led to a favorable Decision Document approving the reasonable site remedy-- an engineered cover of relatively inexpensive materials strategically placed across the site areas of concern-- consistent with the risk assessment studies to remove the possibility of direct human contact while allowing site use for other purposes. This opened the door to what had been lacking before **EXCALIBUR** came on board--a defined plan-- to remove all on-site monitoring wells, meet the state financial assurance obligations, prepare modest ongoing O&M reporting and storm water management plans, and submitting a formal Completion Report to Ohio EPA to enable the client to remove the site from its liability list to a distinct asset as a direct result of **EXCALIBUR's** creative and diligent efforts.

Case 4: Former Coal Tar Refining Superfund Site in Eastern Ohio

A multi-national chemical manufacturer retained **EXCALIBUR** to manage a vacated eastern Ohio legacy coal tar Superfund site and its associated environmental liabilities. **EXCALIBUR** took over site security, remedial system O&M, engineering, consulting regulatory compliance reporting, river sediment sampling / investigation, the USEPA 5-year review process and other actions dictated by the USEPA and Ohio EPA-enforced Consent Decree and Long-term Monitoring Plan (LTMP) applicable to the client's Superfund site. This transition had been precipitated by USEPA criticism of the existing engineering contractor deemed unresponsive to key compliance needs. Effecting this transition required a solid pre-requisite understanding of the critical areas of the Superfund enforcement process, site investigation, remedial engineering and troubleshooting, O&M, engineering, EPA negotiations, field sampling, regulatory



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reporting, and overall project management. Initial tasks included installing additional monitoring wells, conduct all long-term monitoring and regulatory reporting, troubleshooting and upgrading the onsite groundwater and free coal tar remediation system, taking over responsibility for O&M of the existing remedial system, completing a detailed ecological risk assessment of the sediments in an adjacent river as the Project Supervisory Engineer.

EXCALIBUR improved the technical and regulatory position of the site with emphasis on also improving the PRP client's financial outlook. It was important to the client to control and reduce costs while improving its ability to forecast future costs, given its responsibilities under the Superfund financial assurance requirements. As such, **EXCALIBUR** had to manage the project in such a way to also help the client to estimate (and control) these costs likely to be required over a 30-year period. This, in turn, required added focus on identifying and finding ways to best control inherent variables in cost or scope that would affect the terms and cost of the financial assurance. Therefore, **EXCALIBUR** worked with the client to carefully assess the system operations, site conditions and contaminant trends and risks to more reliably forecast and control O&M and other costs, while reducing uncertainties of future costs serving as the foundation of the financial assurance estimates.

EXCALIBUR identified, hired and trained key *local* routine O&M and system sampling personnel to replace the previous contractor's more expensive environmental engineers charged out significantly more for their labor and added travel time and expenses to perform the same work. Based on this approach, with **EXCALIBUR** providing project management and engineering oversight and coordination, costs were dramatically reduced.

In accordance with the LTMP, **EXCALIBUR** also:



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- Led all quarterly monitoring events to sample all project wells, sumps and other locations for petroleum derivatives, volatile organics, and other parameters to track contaminant concentrations and trends over time relative to the source and extraction rates;
- Collected the necessary hydrogeologic and adjacent river water level measurements to monitor groundwater constituent flow patterns and generate time-trend graphs for both the perched and deeper saturated zones;
- Tracked the performance of the remedial system and associated run-time, extraction rates, free product coal tar removal efficiencies;
- Prepared and submitted all technical reports and responses to regulatory inquiries; and
- Fielded whatever challenges arose in troubleshooting, upgrading, operating or maintaining the remedial equipment and site operations, security, and other matters.

All of these field data were summarized and evaluated and routine reported to the USEPA, an important line of communication to demonstrate compliance. **EXCALIBUR** was also responsible for sampling and analyzing system discharges and submitting these results along the performance-based and discharge volume data obtained from the local technicians to the municipality under the site's Industrial Discharge Permit with the City.



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EXCALIBUR's project engineer worked with the prior engineering contractor familiar with the system's performance and pitfalls to identify ways to enhance system performance through the local O&M contractor to maximize the run time and effectiveness of the two-phased collection system. This included evaluating the air compressor capacity, timer-based run cycles versus a float level-based run cycle, equipment shed adequacy, and the cost benefits of possibly discharging the effluent under an NPDES permit instead of to the City sewer system, and if adding more equipment could reasonably improve performance. Based on these engineering evaluations, **EXCALIBUR** was able to markedly improve system efficiency, reduce downtime, and identify better waste management practices.

The lack of progress by the prior contractor in advancing the required ecological risk assessment process was not well received by USEPA, fostering comments about the qualifications of the authors and those proposed to perform the work. But this also created an opportunity for the client through the **EXCALIBUR** team's expertise to reinstitute regulatory confidence in the ecological risk assessment completed for the project.

Serving as the technical regulatory point of contact, **EXCALIBUR** also coordinated with the USEPA and Ohio EPA in developing and securing required Environmental Covenants from some of the site neighbors. This required preparing the written instructions and requests for participation submitted to the neighbors, tracking down and discussing the requests with them, and securing their signatures and sharing the results with the regulators. Subsequently the regulators were also kept abreast with written annual evaluations of institutional controls as required in the LTMP.

As a result of **EXCALIBUR**'s broad-based roll-up-the-sleeves approach, the client was able to get back on track with the previously disgruntled control authorities, improve site



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operations and remedial efficiency/ reliability, better manage the project at a reduced cost, and better forecast future (reduced) costs, which in turn reduced the client's concomitant financial assurance levels and costs at this Ohio Superfund site.

Case 5: Strategic Compliance, Engineering, Remediation Support, US EPA Superfund Coal Tar Refining Site, Multinational Special Chemical Manufacturer, WV

EXCALIBUR provided technical and strategic insights to corporate environmental management and legal leaders to manage environmental liabilities associated with a 20-acre former industrial site including an impacted adjacent river and for a site that was subject to investigation and cleanup under the US EPA Superfund program. Providing critical regulatory support in negotiations related to the need for site remedial action, particularly on how to address free phase coal tar groundwater contamination, was a key objective. Focus on defining, implementing and monitoring creative options was another priority with the capture and treatment of impacted groundwater using coordinated engineered collection and treatment systems designed to treat millions of gallons of contaminated ground water and eliminate oily discharges to receiving streams.

EXCALIBUR managed all groundwater treatment O&M, site security, permit monitoring and important regulatory reporting and notifications and provided valuable advice by professional engineers and geologists on the presence/ absence of free phase river sediment deposits (from prior operations) and potential disposal options. **EXCALIBUR** also coordinated with client counsel to provide technical testimony before a State Hearing Board on the potential sources, transport, and ultimate fate of oily Non-Aqueous Phase Liquid (NAPL) discharges from the site versus a neighboring former industrial coke plant, while commenting on related risk assessments prepared by US



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EPA. As a result of our expert testimony and coordination with the client's attorneys, the Environmental Quality Board vacated an onerous Administrative Order.

In addition, **EXCALIBUR** was asked to serve as the local corporate client liaison at public / community hearings, working directly with the local, state and federal authorities, and supervising all remedial site sub-contractors. We also assisted in developing and implementing the collection of river sediment and biota samples for chemical analyses and associated risk assessment purposes, and fortuitously supported the client in assessing disposal options for wastes subject to regulatory determination resulting in client notification that the NAPL-material would be re-classified from a listed hazardous waste to a non-hazardous waste as a result of **EXCALIBUR**'s liability and asset management support.

Case 6: Hazardous Waste Landfill Superfund Site in Western OH

Since 2010, **EXCALIBUR** has been managing a western Ohio hazardous waste landfill Superfund site and associated long term environmental liabilities. **EXCALIBUR** is serving multiple PRPs by cost effectively managing all aspects of the Superfund site and its liabilities including maintaining site security, O&M of the leachate recovery and treatment system, monitoring of landfill and sentinel well groundwater, landfill gas sampling and evaluation, database development, landfill cap integrity maintenance and inspection, data management and analyses, USEPA and OEPA regulatory interface and reporting, human health risk assessment and other such Superfund site management activities. On behalf of the PRPs as a major initiative to significantly reduce current and future long-term costs by an estimated \$2M cumulative, **EXCALIBUR** is currently preparing a petition to the agencies to idle the labor intensive leachate collection and treatment system based on improved site conditions and current/future projected human health risks.



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EXCALIBUR was originally enlisted as a trusted advisor to the majority Potentially Responsible Party (PRP) who was growing frustrated with the mounting costs and with little end in sight after multiple 5-year USEPA reviews. Considerable investment was being made at the facility in maintaining site security, landfill cap integrity, groundwater monitoring, landfill water extraction and treatment system operations, regulatory community communications / updates and other real estate related activities.

EXCALIBUR's initial mandate was to assess the on-going site operations, remedial actions, areas for potential improvement, cost savings, and site closure strategy.

EXCALIBUR was subsequently unanimously retained by all the PRPs as the Group's environmental liability manager after presenting its engineering assessment and completely new ideas and approaches to more efficiently move the site forward.

EXCALIBUR was hired by these large chemical companies based on fresh, innovative ideas that focused on addressing all regulatory compliance requirements while improving efficiency, communication, and a more streamlined way of managing this Superfund liability which had been under costly remedial action with little change for over two decades.

For example, the PRP group was facing huge additional expenditures in additional studies, repairs and upgrades of the landfill cap based on an independent engineer's report on cap stability. On behalf of the PRPs, **EXCALIBUR** completed a rigorous engineering review of the geotechnical report and identified additional, more cost effective alternatives. With PRP consent, **EXCALIBUR** moved ahead with implementing **EXCALIBUR**'s proposed approach and coordinated with local resources to fully address and resolve the geotechnical, US EPA and Ohio EPA concerns with cap stability saving the PRPs over \$100,000.



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EXCALIBUR also implemented a competitive bidding process in order to ensure that long-term costs remained competitive for field work to address on-site infrastructure demolition/ deconstruction, analytical laboratory services, supplemental investigations and other facility operations. As the PRP's liability manager, **EXCALIBUR** also devised and implemented a cost-effective landfill gas monitoring program to assess and demonstrate that there was no subsurface landfill gas migration toward off-site receptors and to the full satisfaction of OEPA and USEPA regulators. As the PRP's regulatory representative, **EXCALIBUR** served as the in-field regulatory point of contact to ensure directives were effectively addressed in ways that struck the balance between being fully responsive yet practical.

EXCALIBUR instituted new procedures with the local operator to improve efficiencies and cost effectiveness in continued operation, maintenance and monitoring of the land fill leachate extraction/ treatment system. Costs were further reduced by separating legal from technical work and streamlining the regulatory reporting. For example, **EXCALIBUR** took over monthly and other reporting required by the federal and state environmental agencies from attorneys retained for years by the PRPs in order to streamline the work and to more appropriately apply team expertise where needed. In summary, **EXCALIBUR** built upon the institutional knowledge and skills of long-time PRP service providers while using **EXCALIBUR**'s expertise to better manage the site assets and communications with the regulatory "gatekeepers" without any site disruptions.

EXCALIBUR is currently moving the project along a path **EXCALIBUR** had envisioned for the site from the very beginning of its involvement. More specifically, **EXCALIBUR** has recently presented to the regulatory agencies a case it built for the PRPs that continued operation and maintenance of the leachate collection and treatment system is no longer necessary. Building on information **EXCALIBUR**'s gleaned from a lengthy



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site environmental history files and from analyses performed on an analytical database **EXCALIBUR** developed for the site, **EXCALIBUR** prepared a quantitative human health risk assessment to demonstrate current and future risks were within acceptable limits (under both pumping and non-pumping conditions) given land use restrictions already in place. **EXCALIBUR** used the opportunity created by a lightning strike that idled the system to collect groundwater quality data under idled conditions which could be incorporated into the human health risk assessment. **EXCALIBUR** paved the way for regulatory acceptance of the petition to idle the leachate collection and treatment system by incrementally sharing the outcome of our data analyses with the USEPA along with the goal. As a result of **EXCALIBUR**'s campaign, USEPA has agreed on the merits of **EXCALIBUR**'s contaminant fate and transport, plume stability, risk assessment and engineering studies in support of its petition requesting idling the long-term extraction and treatment system. The leachate collection and treatment system is the Superfund site's single largest expense and by idling the system, the PRPs are expected to save over \$2 million.

Case 7: Management of Underground Storage Tank Assets for High-Visibility School District Program.

In concert with the U.S. Army Corps of Engineers (USACE) Baltimore District Total Environmental Restoration Contract (TERC), **EXCALIBUR** prepared a series of detailed written technical plans needed to efficiently and safely remove fuel product from a significant number of underground storage tanks (USTs) serving the Washington DC public school system. These pre-requisite project documents accounted for evacuating and assessing 124 USTs ranging in size from 1,000 to 40,000-gallons at 116 active District of Columbia, Washington, DC, Public School System (DCPS) sites. **EXCALIBUR** prepared the following plans under a fast-track schedule: a



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comprehensive Health and Safety Plan (H&SP); a detailed Contractor Quality Control Plan (CQAP); a Comprehensive Site Assessment Work Plan (CSAWP); and a Site Specific CSAWP (as a working example for all facilities within the school system).

EXCALIBUR's H&SP identified the sites/settings, USTs contents, physical/chemical hazards and control measures, personal protective and decontamination measures, and first aid and emergency procedures and facilities. The plan assigned roles and responsibilities, H&S training and rules, and site orientation, reporting and record keeping requirements to ensure all work was performed safely by appropriately trained, informed personnel.

EXCALIBUR's CQAP described the quality control (QC) organization and program for product removal actions at the DCPS sites, anticipating the site-specific conditions, sensitive school ground settings and specific operating project requirements while establishing the necessary procedures to ensure the quality of the field activities met the technical protocol and design specifications.

EXCALIBUR's Master and Site-Specific CSAWPs was designed as a master document defining the roles and responsibilities, requirements, protocols and schedules to be followed by the contractor/ subcontractors in conducting comprehensive site assessments (CSA) for DCPS facilities previously impacted by UST fuel releases. Key areas included site reconnaissance, field investigations, corrective action/ remedial alternatives analyses, and related CSA field activities and reporting requirements. The plan was prepared in accordance with District of Columbia Department of Health CSA Protocol applicable to UST releases at any given DCPS site requiring comprehensive site assessments and supervision of numerous subcontractors (e.g., drillers, Geoprobe operators, utility mark-out firms, surveyors, analytical laboratories, etc). The objectives of the CSA covered under the plan were to conduct site background searches, fully characterize the soil and groundwater conditions, and to collect site-specific information suitable and necessary to fully delineate the extent of the contamination, and evaluate and determine the appropriate UST site closure approach and remedial technology.



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To account for site-specific elements, the master Work Plan was supplemented with an individual representative site-specific work plan tailored to one of the DCPS leaking UST fueling station facilities. This template was presented in a separate, dedicated attachment to the master CSAWP to address the site-specific CSA work plan elements unique to the respective school property. Using this approach instilled consistency and streamlined future preparation of similar planning documents for other leaking UST sites within the DCPS portfolio in accordance with USACE protocol.

Each of the planning documents was prepared as a stand-alone document for review and comment by the USACE and local environmental authorities prior to being finalized and implemented. Given the sensitive nature of the school settings and the schools' concerns about facility disruptions caused by removing their primary sources of energy for heating and cooking, these plans were particularly important planning tools to prevent school disruptions. Therefore, time was of the essence in preparing first rate documents in short order that met the comprehensive needs of regulatory, school, USACE and contractor personnel to efficiently evacuate the 124 USTs in accordance with the overall energy conversion/ upgrade program and environmental requirements without causing school disruptions or health and safety concerns. From the time the firm fixed price task order was issued, **EXCALIBUR** completed all four planning documents, including incorporation of USACE's comments, within less than four (4) weeks.

Given the sensitivities and visibility of the fuel conversion program, this project was managed by one of **EXCALIBUR**'s Principals who formerly served as the Project Manager overseeing the entire DCPS UST assessment and management program. In that capacity, he met with the USACE engineers and DCPS and local environmental officials to ensure all project activities were well planned, documented and communicated to maximize efficiency. Given the sheer number of USTs and the incomplete nature of the school system's regulatory records, considerable time and effort were spent up front to develop an accurate UST inventory by tank type, location,



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capacity, and fuel type to ensure safe, efficient evacuation and assessment of the aging UST population. The locations of all USTs were carefully mapped within distinct District of Columbia sectors in developing the comprehensive plan for geographically-based contractor and subcontractor teams to efficiently gauge and sample and subsequently access/ empty the USTs in circuit-like approaches.

Extensive coordination with the local environmental authorities, school officials and subcontractors resulted in the successful implementation of efficient fuel evacuation procedures for the tank population with a total capacity of 1.7 million gallons. All work was prioritized and sequenced with the school officials to avoid disruptions to school operations in a safe, well organized manner in support of the follow-up site assessments and tank closures. As part of the field work, all UST systems were inspected to document site-specific design, layout, location, and signs of environmental releases relevant to follow-up monitoring, in-place closures and removals, and site restoration prior to conversion of the school facilities over to natural gas.