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DUE DILIGENCE

Case 1: Multiple Acquisitions by Marine Services Firm, VA, PA, TX, OR and WA

For nearly a decade, **EXCALIBUR** conducted environmental business risk assessments in support of a series of successful acquisitions by a nationwide marine services firm. This repeat customer calls **EXCALIBUR** a “valuable partner in helping execute our business strategy.” To date, our assessments in support of this client have looked at facilities in Norfolk , VA , Philadelphia , PA , Houston , TX , Portland , OR , and Seattle , WA , providing support services to customers operating in inland waterways, coastal ports, and at off-shore facilities. The acquired operations have included tug and barge transport of bulk and containerized petroleum fuels and products, tug, barge, and ship maintenance and repair services, formulation of specialty products for marine use, and the handling and treatment of non-hazardous wastewater streams generated in the maintenance and cleaning of tugs, barges, and ships. Each assessment examined and evaluated potential environmental and occupational health and safety compliance issues, business interruption risks, and environmental liability concerns associated with these target operations. In select cases, this client retained **EXCALIBUR** to conduct follow-on Phase II investigation completed under compressed schedule deadlines.

Case 2 - Desk Top Due Diligence Studies

EXCALIBUR performed “desk top” environmental due diligence assignments for a client looking to formulate viable offers for companies seeking auction bids. When the target company was entertaining first-round auction bids, it was not possible to complete traditional environmental due diligence as defined by the ASTM E 1527 standard



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practice. Nonetheless, the client sought an informed judgment concerning the target company's potential environmental liabilities so the bid could be framed that balances staying in the auction process and reasonably accounting for liabilities that the client deems material. **EXCALIBUR** has conducted many of these desk top studies for clients participating in auctions to possibly purchase various facilities including an ethanol refinery and distribution facility, high-end retail store operations, a cryogenics equipment manufacturer, a printed circuit board assembly and distribution facility, and a vinyl window and door manufacturer. Each desk top study typically consisted of: (a) reviewing site-related documents; (b) conducting telephone interviews; (c) obtaining environmental database search results and publicly available historical land use research resources; and (d) providing a brief summary report. However, successful conduct of this kind of project depends more on asking the right questions, gleaned as much insight from the limited amount of information provided, and applying past experience to separate out what may be considered material to the auction bid. Therefore, in the final analysis, what led clients to retain **EXCALIBUR** for these quick-turnaround desk top studies was access to staff each with over 25 years of environmental business risk assessment experience and a solid track record delivering quality input to the deal process. As one client put it, *"....What I have most appreciated is how your senior staff have tailored their support in ways that make sense for the timelines and structures of each transaction...and equipping our clients with the critical information they need...."*

Case 3 - Environmental Business Risk Assessment – Munitions Manufacturer

EXCALIBUR completed an environmental business risk assessment in support of a client's acquisition of a manufacturer of less-than-lethal inert munitions and chemical-based munitions used by the military and/or civilian law enforcement agencies. This



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facility was comprised of 12 buildings on 92 developed acres as part of a 150-acre owned property. Other features included four aboveground explosives storage magazines; a test pit; a test stand; a test pad; a septic mound; a former burn pit; an indoor firing range and two outdoor firing ranges; a variety of outdoor storage containers; and a former farm pond. The scope of **EXCALIBUR**'s assessment encompassed the limited "dirt liability" focus of ASTM E 1527 plus the addition of a high-level environmental and occupational health & safety compliance review, a review of off-site disposal practices and liability, a general visual examination for the presence of possible asbestos-containing materials, and examination of potential business interruption risks. This project was somewhat unique in that the compliance review had to consider not only the programs and plans related to federal, state, and local environmental regulatory compliance, but also compliance with the Department of Defense regulations concerning ammunition and explosives safety. Overall, **EXCALIBUR**'s assessment identified two compliance or potential liability issues above the materiality threshold identified by the client as well several issues with estimated corrective action costs below the materiality threshold.

Case 4 - Environmental Liability Estimations, Mining/Ore Facilities, CA, CO, NM, PA

Developed and oversaw the implementation of a fast-track environmental due diligence project involving five mining and ore processing facilities. The client, a Japanese conglomerate, needed the information to support its decision on whether and how much to bid on the portfolio. Documentation contained in data rooms prepared by the prospective buyer's and seller's counsels were evaluated along with information gleaned from interviews with the seller's management prior to developing the scope of the valuation liability investigation. Subsequently, all five of the massive facilities were inspected by teams of environmental assessment, process engineering, and



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compliance specialists over a very short 5-day period set by the seller. Because the inspections were limited by the seller during the bidding phase to no more than 6-7 hours each, 5 senior 2-person assessment teams drawn from multiple locations under the direction of the single project manager had to be simultaneously deployed to meet the client's project objectives. During the planning and implementation of the site inspections, those operational and environmental issues suspected of having the greatest cost impact were concentrated on most. Specialized expertise also had to be located for the assignment to determine potential cost implications of new mining waste regulations, mixed radioactive and RCRA hazardous waste disposal issues, and related monitoring, storage, and record keeping practices.

In accordance with the client's protocol, individual environmental problems estimated to cost over \$100,000 were identified and totaled along with the associated corrective actions and/operational changes. Timeframes to implement and complete each corrective action and the associated schedule and cost assumptions were presented and debated in detail with the transaction parties. The known and likely environmental liabilities identified during the due diligence effort totaled \$60 million in capital expenditures and \$1-2 million in annual operation and maintenance costs. Because the total estimated value of the portfolio hovered around \$100 million, the grateful client declined to bid.

Case 5 - Environmental Insurance Loss Control Program, Multiple States

A unique prototype of an environmental loss control program was developed for a 100-year old insurance company. The client was interested in evaluating the insurability of select business interruption and production losses due to environmental releases and corrective actions. The pilot program, which was developed and tested at multiple



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insured manufacturing plants across the U.S., was designed to collect, evaluate, quantify, and communicate information on the environmental risks both to the underwriters and the insured. A comprehensive written protocol was prepared for insurance company representatives describing how to prepare for and conduct on-site loss control surveys, including guidance on data collection techniques, selective file searching, and prioritization on what facility features and environmental risk factors are of greatest importance. Descriptions on the processes and calculations to be used to rank and quantify environmental liabilities, as well as standard site interview and survey forms, systematic site observation recording formats, and instructions on how to communicate the findings to the insured and insurance underwriters, respectively, were developed. Extensive field testing of the pilot loss control program was conducted at multiple factories by teams of loss control assessors to obtain constructive feedback toward further improving the insurance tool. Detailed implementation was conducted to quantify the environmental exposures and develop recommendations to control potential losses at the surveyed industrial facilities. These data were also used to test the qualitative and quantitative ranking systems developed as part of the pilot effort which would serve as the basis for setting insurance rates relative to perceived management deficiency and operational risks and respective loss control factors.

Case 6 - Due Diligence Support - Multinational Client

EXCALIBUR regularly provides due diligence support services to its multinational client including: in-depth independent research; insightful corporate and regulatory file reviews; investigative interviews with private parties; windshield surveys and site inspections; tailor-made data base searches; field reconnaissance and photographic documentation; corporate profiling; and numerous other investigative services with or without the participation and knowledge of target company personnel.



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Dependent on the assignment, **EXCALIBUR** has retained outside environmental legal consultants, forensic analytical experts, supplemental environmental compliance experts, and other technical specialists to ensure precision, reliability, and timeliness of strategic results. To date, Excalibur has discovered *several tens of millions of dollars* in previously unknown contamination and compliance liabilities, real-world operation and site expansion restrictions, and several other deal-critical concerns used by client decision makers to define transactional conditions.

Key **EXCALIBUR** Services for Client

- *Estimating the magnitude of significant environmental contamination and non-compliance liabilities;*
- *Fleshing out environmental liability indemnification offsets;*
- *Forecasting future operational limitations posed by environmental liabilities;*
- *Establishing existing baseline environmental and inherent liability site conditions prior to joint venture investments*
- *Segregating operations, waste streams and environmental responsibilities of acquired assets from those retained by the seller;*
- *Predicting the feasibility for major site development expansions in impacted areas;*
- *Defining impacts of deed restrictions and other institutional controls on future operations;*
- *Determining offsite Superfund and other waste disposal liabilities;*
- *Evaluating likelihood for third-party offsite environmental claims;*

Determining likely public perceptions and reactions to industrial expansions.



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Case 7 - Due Diligence Program Management for Investment Bank

Since 2009, **EXCALIBUR** designed and managed a commercial lender's / bank's environmental due diligence program for a multi-billion portfolio of commercial asset loans. **EXCALIBUR** serves as the lender's due diligence technical advisor for the investment bank's foreclosure and other business decisions. Whenever **EXCALIBUR**'s client contemplates possibly taking title to and control of the real property offered as collateral for a loan declared in default, **EXCALIBUR** is engaged to secure Phase I Environmental Site Assessments (ESAs) of each property to meet the expectations of "all appropriate inquiry" requirements of the standard practice for Phase I ESAs known as ASTM E 1527, and additional requirements posed by the EDD protocols and policies of the SBA. **EXCALIBUR** supervises and directs a stable of Phase I ESA vendors who conduct the on-site Phase I ESAs. **EXCALIBUR** conducts third-party reviews of all the Phase I ESA reports on its client's behalf to ensure the work product meets all works scope and quality requirements. To date, **EXCALIBUR** has handled over 400 assignments as its client works through its portfolio of loans moving into default.

Case 8 - Environmental Liability Assessment / \$60M Investment Decision Advisory, Chemical Plant, International Chemical Client, NV

EXCALIBUR was retained by a worldwide chemical manufacturer to provide critical intelligence needed make a strategic investment decision involving a chemical manufacturing facility located on the site of a former WW II complex that had caused substantial groundwater impacts to surface water with perchlorate contamination extending hundreds of miles offsite. The investor hired **EXCALIBUR** to confidentially determine the status of their competitor's manufacturing and environmental liabilities across many dimensions. Key areas of interest included the: status of the confidential



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manufacturing/ production operations; environmental compliance status; potential cost impact of more stringent clean-up standards under regulatory review; ongoing/ likely future long-term environmental engineering/ remediation/ O&M costs; potential for environmental liability-driven business interruption; current environmental insurance coverage/ pay-outs, potential third party liabilities, and overall pollution cost recovery remuneration through on-going legal actions against the US government.

Due to the growing evidence of the widespread impacts from the legacy site operations, **EXCALIBUR** was retained to advise the prospective new owner on the magnitude of potential environmental risks it might face as a new owner. This required considerable independent research on the:

- past site operations and impacts
- extensive field investigations and engineering studies to define the contamination and remedies
- engineering, construction and O&M actions to address these liabilities
- status of over 60 court motions on the owner's \$25M lawsuit against United States
- local and state media records on third party concerns and community profiles
- facility's environmental insurance risk management strategy and policy coverage and offsets to the significant remediation costs
- target company cost reserves, and
- the development of more stringent clean-up and action levels by the Nevada DEP and US EPA

The order of magnitude of the labor, capital, and O&M costs incurred, being spent, and planned on being spent to address environmental liabilities were on the order of several



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tens of millions of dollars, whereas the offsite liabilities were considered potentially greater, especially if the perchlorate standards being developed crested certain thresholds. Directly obtaining the perspective of the environmental regulatory community with first-hand knowledge of the on-going and likely future remedial actions was key to **EXCALIBUR**'s engineering, construction, and environmental liability assessment used by the investment team. The intelligence brought to bear on the terms and conditions of the \$100M insurance policy and how much of the \$61M self-insured retention tied to defined clean-up levels had already been spent was valuable to the client's risk managers, as were the details on local community profile, current facility workforce, availability of skilled labor and other local factors to the client's industrial siting team. **EXCALIBUR**'s independent broad-brush look at the legal filings and direction also provided a better understanding of potential cost recoveries, legal strategy and feasibility of making the investment which in the end did not proceed specifically because of **EXCALIBUR**'s intense research, extensive interviews and detailed confidential evaluation that showed the potential environmental liabilities to likely exceed the contemplated investment amount by a factor of 1.8!

Case 9 - Environmental Liability & Indemnity Assessment, International Chemical Manufacturing Investor, OH & NY

EXCALIBUR advised senior management at an international chemical company on environmental liabilities and risks associated with complex real estate / technology acquisition deal involving several chemical production facilities in NY and OH with a long history of contamination - the largest of which was the primary contributor to the infamous Love Canal Superfund Site. As their environmental asset and liability investigator, **EXCALIBUR** collaborated with their corporate attorneys, construction engineers, manufacturing, and financial managers to evaluate the feasibility and environmental risks of investing in three major chemical intermediate manufacturing



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facilities in New York and Ohio. **EXCALIBUR** assisted the due diligence team and identified several faults associated with the proposed property transfer approach designed to protect the buyer from liabilities arising from the pre-existing contamination. The largest of the three facilities was to be an “asset purchase” of the chemical complex & equipment and “lease” of the underlying land. **EXCALIBUR** notified its client that this arrangement may not provide significant or adequate protection once there was a hazardous substances spill of any type or volume from the acquired facility. Unless the client could successfully demonstrate that such releases from its operations were discrete and could be physically segregated from the remaining site contamination (i.e., no co-mingling of the wastes), they could likely be deemed liable under CERCLA for the entire site; cautions that **EXCALIBUR**'s international investor had not considered.

Key concerns included:

- Rumors of significant onsite and offsite contamination;
- The paucity of information provided by the seller;
- The asset purchase was being competitively bid within a compressed schedule;
- Questions about whether the pre-existing baseline environmental liabilities and site conditions could be sufficiently defined to establish indemnities and protect the buyer from false claims of having caused pre-existing conditions;
- What level of indemnities would be offered; and
- The overall financial stability of the seller given their significant burden of liabilities.

At the start of the assignment, little to nothing was known about the facilities. But using bits and pieces, **EXCALIBUR** developed with the client an investigative plan aimed at identifying and quantifying the major environmental liabilities and potential indemnification offsets to enable an informed *investment* decision. This included



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EXCALIBUR assembling its own team of highly experienced environmental due diligence, remedial engineering, compliance, and cost estimator experts to conduct detailed research and document reviews; investigative interviews with the seller's corporate, legal, managerial and technical contacts; on-going oral client debriefings and written synopses; and close interaction with the **EXCALIBUR**'s counterparts on the client's international investigative team of process engineering, manufacturing, construction, and finance experts.

Given the many constraints imposed by the seller, **EXCALIBUR**'s team focused on understanding the global strategic environmental risk and indemnification issues relative to the client's plan for future expansions. Particular attention was paid to the *overall* nature and magnitude of contamination, those liabilities or upcoming compliance requirements that could restrict future site operations and expansions, and what environmental indemnities the seller may offer in the context of what **EXCALIBUR** discovered.

As a result of the investigative effort, it was learned that two of the three chemical complexes were significantly contaminated and the baseline environmental conditions had not been sufficiently defined to protect the client against false future claims that their operations using the same equipment and methods had contaminated the complex. Also, without this information, a key client goal of establishing an indemnity standard could not be developed with the seller for which over \$200M in Closure/ Post Closure liabilities were estimated whereas unspecified reserves to cover environmental liabilities were reportedly set aside, but unfortunately not in escrow or the hands of a third party. The fact that the largest chemical production facility was linked to the infamous Love Canal Superfund Site and other waste disposal site risks further heightened the client's interest in understanding the facility's liabilities and potential for concomitant liability spill-over onto their ledger.



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EXCALIBUR pointed out that the seller's overall corrective actions focused on multi-decade containment vs. clean up. Segregating the client's future operational waste streams from the seller's surrounding production operations, and repairing the dilapidated sewer lines which were in communication with the seriously impacted groundwater were not economically feasible. The client was advised that both of these scenarios posed as potential doorways for future blurring of liability responsibilities and cleanup costs.

Another key concern to the "asset purchase" of the chemical complex and "lease" of the underlying land designed to protect the buyer from liabilities arising from the pre-existing contamination was this arrangement may not provide significant or adequate protection once there was a hazardous substances spill of any type or volume from the acquired facility. Unless the client could successfully demonstrate that such releases from its operations were discrete and could be physically segregated from the remaining site contamination (i.e., no co-mingling of the wastes), they could likely be deemed liable under CERCLA for the entire site, cautions that **EXCALIBUR's** international investor had not considered.

Whereas the seller showcased their captive, permitted hazardous waste incinerator as an asset in the deal that could destroy much of the liquid hazardous wastes generated in the client's new chemical intermediates portion of the entire complex, further investigation proved the contrary. The seller touted on-site incineration of the client's hazardous waste would be half the price of offsite commercial incineration. But what wasn't discussed were the onerous responsibilities and costs of operating the unit under the Part B hazardous waste permit, and *very strict* and detailed closure requirement, should the incinerator no longer be used, which again would be complicated by distinguishing responsibilities for pre-existing contamination.



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Other alternatives to purchasing the equipment and assets while leasing the facilities turned to the possibility of dismantling key production lines for relocation and start-up elsewhere. Yet no matter how these alternatives were evaluated by **EXCALIBUR** and its international teammates, **EXCALIBUR** flagged several environmental compliance, contamination, pre-existing deed restrictions, and other impediments that thwarted further consideration.

All in all, the investigative investment feasibility project ended with senior corporate management expressing deep appreciation for **EXCALIBUR's** services which not only discovered and but also explained the likely significant liabilities and risks of the proposed acquisition. Although the strategic acquisition had been **EXCALIBUR's** client's most sought-after production strategies, they were pleased to have avoided the excessive risk of significant long-term environmental costs. Subsequent to this assignment in 2001, the corporate conglomerate has retained **EXCALIBUR** on dozens of subsequent environmental liability assessment and asset management assignments across the U.S. continuing to-date.

Case 10: Pre-Investment and Divestiture Environmental Liability Assessments of Joint Venture Nanoparticle Manufacturing Facility, International Chemical Company, Arizona

EXCALIBUR was retained to assess the potential for traditional and nanoparticle environmental liabilities of cutting-edge nanotechnology development, research and development (R&D) and nanotube and carbon-carbon composite and thermal management products manufacturing facility co-located within a larger R&D and production plant in Arizona. **EXCALIBUR** served as a senior technical advisor to an international chemical company considering investing as a joint venture (JV) partner in this pioneering technology and product development facility. After obtaining security



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clearance, **EXCALIBUR** conducted considerable independent research on nanotechnologies, products and environmental and health and safety issues. Subsequently we conducted detailed pre-site inspection interviews with the site owners and their technical manager followed by detailed onsite interviews, through site inspections and file reviews, and careful evaluations of the JV and non-JV facility compliance profile, air emissions and wastewater and waste management practices, and prior environmental studies done for other investors. **EXCALIBUR** provided a timely preliminary oral report to the international investment team followed by a detailed written summary of findings, analyses and recommendations regarding environmental liability and asset management.

Key areas of interest included whether the facility had or could cause on-site or offsite environmental contamination impacts. Similarly, the investors were very interested in the technologies and nanotechnology/ product research and production facilities, the infrastructure to contain the not well understood microscopic product lines, the facility environmental compliance status and hazardous materials and waste management practices, cost projections to address potential issues of concern, and how distinct or integrated were the nanotechnology R&D and production lines and environmental management practices from the rest of the non-nanotechnology facility which was not part of the investment.

Based on **EXCALIBUR**'s focused liability assessment, no significant on-site contamination or environmental non-compliance concerns were identified or linked to the target nanotechnology or non-JV operations. Due to the inherent nature of the operations and management practices, no significant environmental concerns associated with air emissions, water supply, wastewater discharges, UST management, pesticide storage and management practices, or PCBs, or need for additional environmental permits or measures to operate within the industrial/ commercial



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community were noted or regarded as material or significant in dollar terms to the investor. Based on **EXCALIBUR**'s input, the client decided to invest in the facility.

Divestiture Environmental Assessment - years later the client retained **EXCALIBUR** again to conduct an environmental liability and asset management JV close-out assessment to document the overall environmental operational conditions in comparison to the conditions and findings noted in **EXCALIBUR**'s baseline pre-investment environmental report. This "close-out" assessment was intended to "book end" the baseline pre-investment assessment, focusing on identifying any environmental changes and liabilities in the JV's asset since investment with emphasis on nanotechnology research, development and production elements. Areas of key interest during the divestiture interviews and facility inspection included: current environmental compliance, permitting, and management of the nanotechnology operations; defining the physical, operational, and compliance "boundaries" of the JV operations relative to the rest of the larger facility; and any changes in environmental, health and safety management and compliance since the benchmark pre-JV assessment. **EXCALIBUR**'s assessment employed a materials balance approach to looking at the operations to help trace what raw materials came in, what was produced, and what wastewater, air emissions, and wastes were generated and managed.

Overall, **EXCALIBUR**'s environmental asset divestiture assessment generated the detailed document defining the JV operation's environmental status at the time of divestiture and no environmental issues regarding the JV operation itself as material or significant in dollar terms. No known or suspected environmental liabilities were identified associated with wastewater, USTs, PCBs, pesticide, environmental regulatory inspections, or waste disposal practices since the baseline pre-investment assessment. However, a few instances were flagged where nanomaterials were handled outside the controlled pilot plant operations



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and air emissions management equipment and program prior and after pilot plant construction. The divestiture review also identified and documented unresolved hazardous waste management responsibility and compliance issues between the JV and surrounding non-JV issues important to the investor should compliance accountability issues arise after the divestiture. Overall the divestiture went smoothly as planned by the client after the aforementioned issues flagged by **EXCALIBUR**'s environmental liability and asset close-out assessment were taken into account at closing.