

EXHIBIT R-2

Richard J. Cushing, LSP

Principal

EDUCATION

M.S., Chemical Engineering, Northeastern University 1978
B.S., Chemical Engineering, University of Lowell, 1974
B.S., Paper Engineering, University of Lowell, 1974

PROFESSIONAL REGISTRATION, CERTIFICATIONS, AND TRAINING

- ◆ Licensed Site Professional (Massachusetts #3063) 1994

PROFESSIONAL BACKGROUND

Mr. Cushing has over 30 years of experience in the areas of chemical and environmental engineering specializing in the fields of site characterization and clean-up. He has conducted numerous remedial investigations to characterize site conditions involving a wide range of chemical constituents and performed numerous feasibility studies including Alternative Remedial Strategy evaluations needed to demonstrate Technical Impracticability. He has provided numerous LSP opinions in support of a wide range of environmental activities.

Mr. Cushing has also been responsible for the design and implementation of a variety of remedial projects specializing in the areas of innovative remedial technologies. He has designed numerous in-situ remedial systems utilizing air sparging, vacuum extraction and dual extraction technologies for the cleanup of both soils and groundwater. He also has experience in the design and installation of groundwater pump and treat systems and the large-scale application of land farming for the bio-remediation of petroleum contaminated soils. Mr. Cushing has been responsible for the design and construction of low permeability caps and the closure of a number of industrial impoundments containing PCB's and other industrial chemicals.

Mr. Cushing has been responsible for the environmental management of an operating facility of Fortune 500 industrial chemical manufacturer. In this capacity, he was responsible for all facility regulatory compliance activities including industrial hygiene, OSHA compliance, hazardous waste management, TSCA compliance, Clean Water Act and NPDES permitting, waste water pretreatment, Clean Air Act compliance and air permitting. Mr. Cushing has conducted numerous regulatory compliance audits and has worked with many industrial facilities to enhance their compliance programs.

PROFESSIONAL EXPERIENCE

Environmental Investigations and Remediation

- ◆ **Massachusetts Contingency Plan / Ground Water Remediation** Project Manager providing design and construction support services in the construction of an air sparging/soil vapor extraction system at a Tier IA site. The design involves the construction of a cap and artificial vadose zone for the collection of injected air and an interception system to intercept air migrating towards a nearby stream. System has successfully reduced the concentrations of chlorinated solvents in groundwater by three orders of magnitude after one year of operation.
- ◆ **Massachusetts Contingency Plan / Soils Remediation** LSP/Project Manager providing oversight in the assessment and remediation of a release of No. 2 fuel oil at a Massachusetts elementary school. The project involved relocation of two temporary classrooms and excavation and disposal of approximately 1,000 cubic yards of impacted soils. RAO was achieved with manageable impacts to school property
- ◆ **Massachusetts Contingency Plan / Soils Remediation** LSP/Project Manager providing oversight in the assessment and remediation of a release of No. 2 fuel oil residential property. The project involved treatment of soils impacted with No. 2 fuel oil with hydrogen peroxide to reduce concentrations to below MCP standards. RAO was achieved without extensive excavation, minimizing the overall project costs.
- ◆ **Massachusetts Contingency Plan / Ground Water Remediation** Project Manager providing design and construction support services in the installation of a dual-phase recovery system for the treatment of gasoline and diesel fuel in groundwater at a Worcester car rental agency. The project featured expedited removal of separate-phase oils in a remotely monitored system installation.
- ◆ **Massachusetts Contingency Plan / Ground Water Remediation** LSP/Project Manager providing design and construction support services in the installation of a vacuum enhanced recovery system for the recovery of spent solvents released to groundwater at a western Massachusetts printing operation.
- ◆ **Massachusetts Contingency Plan / Soils Remediation** LSP/Project Manager providing oversight in the assessment and remediation of a release of No. 2 fuel oil at a Massachusetts private residence. The project involved underpinning of the residence foundation to facilitate the complete removal of impacted soils. Expedited RAO was achieved without the need to relocate the property owners.
- ◆ **Massachusetts Contingency Plan / MGP Site Investigation** LSP-of-Record supervising the Phase II Comprehensive Site Assessment at a former

Manufactured Gas Site in Western Massachusetts. The investigation involved the evaluation of MGP around five large gasholders and an extensive processing area. During the Phase II Study, a Release Abatement Measure was conducted to excavate and successfully treat approximately 40 tons of soil impacted with MGP waste, which enabled the off-site disposal as non-hazardous waste. The study concluded that additional remediation involving on-site closures would be necessary for the site.

- ◆ **Massachusetts Superfund Project / Groundwater Remediation** Project Manager responsible for design and construction of a 50 point air sparge/vacuum extraction curtain installed across a 700 foot wide VOC groundwater plume to prevent the migration of the VOC to an off-site pond. This project involved the expedited installation of a computer operated ground water treatment system. In order to meet an aggressive construction schedule Mr. Cushing maintained on-going dialog with both EPA and Mass DEP.
- ◆ **MCP Phase IV Closure / Soil Remediation** Project Manager responsible for the design and implementation of a low permeability cap over PCB contaminated soils at a former electronics manufacturing facility. The program involved the management of a limited soils excavation program to dispose of heavily contaminated soils followed by the design and preparation of technical specifications for the cap construction. The program also included the management of the contractor selection, supervision of construction and preparation of the closure report documenting all of the program activities.
- ◆ **MCP Phase IV Closure / Soil Remediation** Project Manager responsible for decontamination, dismantling and the off-site disposal of PCB contaminated process equipment and the closure of the area by installing a slurry wall and low permeability cap around PCB contaminated soils.
- ◆ **Bostik, Middleton, MA Facility / Groundwater Remediation** Project Manager/LSP-of-Record for site investigation and remediation at the Tier IA site. Responsible for assisting Bostik in preparing a management strategy that meets regulatory requirements and the fiscal targets set by Bostik. Responsible for the conversion of a groundwater extraction and treatment system into a dual-phase extraction/bioventing system. This project enabled the accelerated removal of VOCs from the Site ground water substantially reducing the projected operating life of the remedial system
- ◆ **Massachusetts Contingency Plan Phase IV Closure / Impoundment Closure** Project Manager responsible for the closure of a former waste impoundment at a Tier 1A site containing PCBs and TCE sludge located beneath an operating electronic manufacturing facility. Developed the design for closure implementation, prepared plans and specifications, performed contractor selection, supervised the execution of the closure resulting in project completion which met an extremely tight schedule within the project budget. Mr. Cushing negotiated all details of implementation with Mass DEP on behalf of the facility owner.

- ◆ **Connecticut Property Transfer / Groundwater Remediation** Project Manager responsible for the pilot testing and detailed design of a proprietary system for the removal of DNAPL at a former elastomer manufacturer. Identified the potential applicability of the removal technology and supervised the field testing to demonstrate the effectiveness of this unique approach for the removal of chlorinated hydrocarbons. Based on the results of the pilot study, a full scale design was prepared for approval by the State of Connecticut.
- ◆ **McKin Superfund Site, Gray, Maine / Technical Impracticability (TI) Evaluation** Project Manager responsible for performing the TI evaluation involving the migration of chlorinated solvents from the site to a nearby river. The project focused on demonstrating Technical Impracticability through the use of a computer model to predict contaminant transport through bedrock and evaluating alternative remedial approaches for the Site. This program involved a high level of interaction and negotiation with EPA and Maine DEP.
- ◆ **Massachusetts RCRA Facility Closure / Groundwater Remediation** Engineering Task Manager for a remedial program at a RCRA TSD involving the design and implementation of an air sparging/vacuum extraction for the removal of volatile oils. The overall program included conducting a pilot test to obtain site specific information, interpretation of the testing results, detailed design, construction, start up and testing of a transportable remedial system.
- ◆ **Bostik, Middleton, MA Facility / TPH Soils Excavation** Project Manager/LSP-of-Record responsible for the excavation and disposal of soils containing TPH from a series of releases from a UST tank farm. The program included preparation of specifications, contractor selection, construction management including off-site disposal of soils. Program was completed ahead of schedule and below budget.
- ◆ **MCP Phase IV Closure / Impoundment Closure** Project Manager responsible for the closure of a waste impoundment containing PCBs and bis 2-ethyl hexyl phthalate associated with a chemical manufacturing facility. Developed the design for closure implementation, performed contractor selection, supervised the execution of the closure and prepared all Phase IV documentation.
- ◆ **Massachusetts Contingency Plan / Remedial Cost Estimates for 23 Former MGP Sites.** Project manager responsible for conducting site specific remedial cost estimates for 23 former MGP sites for an eastern Massachusetts utility. The program included a site visit to determine site characteristics followed by preparation of remedial cost estimates using a modified version of Gas Research Institute software. The estimates were used to help identify over remedial costs that were used for filing with the SEC.

- ◆ **Illinois Superfund Site / Groundwater Remediation** Engineering Task Manager overseeing engineering design of the rehabilitation and overhaul of previously installed groundwater extraction equipment to improve the system reliability and reduce overall operating cost.
- ◆ **Connecticut Site / Closure Groundwater Remediation** Engineering Task Manager for a program at a former gasoline retail site involving the installation of an air sparge/vacuum extraction system to remove dissolved phase petroleum constituents close to an adjacent restaurant. This program also included the design and installation of a groundwater pump and treat system to control the offsite migration of dissolved phase petroleum constituent impacting residential water supplies. Supervised all design, equipment selection, installation and start up. The system successfully removed all traces of petroleum contamination from site groundwater.
- ◆ **Rhode Island Former Oil Terminal / Soil Bioremediation** Engineering Task Manager responsible for the design and construction of cells to be used for the bioremediation of petroleum containing soils at a former oil terminal. Also designed and implemented a series of engineered soil piles in order to extend the soils treatment season and reduce overall treatment costs. Designed and implemented all storm water/erosion controls and conducted all RIPDES permitting for site storm water and construction dewatering involving petroleum contaminated groundwater.
- ◆ **Massachusetts Contingency Plan / Groundwater Remediation** Engineering Task Manager and LSP of Record for a remedial program at a former gasoline UST site involving the removal of separate phase petroleum and contaminated groundwater using dual extraction to accelerate the removal of petroleum adsorbed to site soils. Supervised all project permitting. Prepared MCP RAM Plan, RAM Completion and RAO for the property at the completion of the remedial program.
- ◆ **MCP Phase II, RAM / Groundwater Remediation** Engineering Task Manager and LSP of Record for a remedial program at a former gasoline retail site involving the removal of separate phase petroleum and contaminated groundwater using dual extraction to accelerate the removal of petroleum adsorbed to site soils. Supervised all project permitting. Prepared MCP RAM Plan, RAM Completion and RAO for the property at the completion of the remedial program.
- ◆ **Wisconsin Facility Closure / Groundwater Remediation** Engineering Task Manager for a program at a former gasoline UST site involving the design of a biosparge system for the remediation of dissolved phase petroleum contamination. Prepared detailed design and equipment selection based on the results of a pilot test conducted on site.
- ◆ **Massachusetts Contingency Plan / Groundwater Remediation** Project Manager responsible for the design and implementation of oil skimming

equipment for the removal of PCB containing oils beneath a building foundation. The program included the completion of a detailed design and the preparation of construction specifications followed by the selection of a construction contractor. The program also included the supervision of all contractor activities, the start up and optimization of the skimmer systems.

Feasibility Studies

- ◆ **Massachusetts Contingency Plan / Feasibility Study Electronic Manufacturer** Project Manager conducting a MCP Phase III evaluation at a former electronics manufacturing facility which is a Tier 1A site. The evaluation focused on determining the appropriate remedial response for extensive PCB soil contamination, PCB contamination on interior building surfaces and for air in the interior of buildings expected to be converted to a museum. Performed preliminary screening and detailed evaluation based on the MCP criteria. Prepared the Final Remedial Response Plans based on the results of the evaluation.
- ◆ **Massachusetts Contingency Plan/ No. 6 Fuel Oil Release** Project Manager conducting a MCP Phase III evaluation at an existing industrial facility involving multiple releases of No. 6 fuel oil. The evaluation concluded that limited source removal along with the implementation of an Activity and Use Limitation was the appropriate response for the site. These actions would provide conditions that would support a Class C (temporary) Response Action Outcome for the site. The site is currently in Phase IV.
- ◆ **Massachusetts Contingency Plan / Oil Terminal** Project Manager conducting a MCP Phase III evaluation at an existing oil terminal. The evaluation focused on determining the appropriate remedial response for the closure on an on-site impoundment containing refinery wastes and the remediation of a petroleum contaminated soil pile. Performed preliminary screening and detailed evaluation based on the MCP criteria. Prepared the Final Remedial Response Plans based on the results of the evaluation.
- ◆ **Massachusetts Contingency Plan/ Defense Manufacturer** Project Manager conducting a Feasibility Study according to Superfund and MCP criteria. The evaluation focused on determining the appropriate remedial response for chlorinated solvents present in site ground water at numerous locations throughout the facility. Performed preliminary screening and detailed evaluation. Prepared the Final Remedial Response Plan for the facility.

Compliance Audit

- ◆ **Multiple Chemical Manufacturing Facilities** Project manager responsible for combined regulatory compliance and waste minimization audits for a specialty chemicals manufacturer at seven international facilities in the United States, Europe, Africa and South America. The project involved the evaluation of

environmental conditions for each facility and recommending actions to improve compliance as well as identification of waste reduction opportunities for each location.

- ◆ **Multiple State Police Barracks** Conducted regulatory compliance audits at twenty-eight barracks throughout Massachusetts. The audits focused on determining current compliance with all applicable environmental regulations. The project also involved preparation of recommended action for each facility and the preparation of cost estimates of conduction the recommended action.
- ◆ **State Mental Hospital** Project Manager responsible for evaluating environmental compliance at a Massachusetts Mental Health facility composed of a campus of approximately 40 buildings. In addition, the project scope also included conducting preliminary assessments of three possible disposal areas in the facility and a conducting a comprehensive chemical inventory of the chemicals used at the facility. Recommended actions for the facility and cost estimates to conduct the recommended action were also prepared.
- ◆ **Electronics Manufacturing Facility** Project Manager responsible for performing a multi media environmental compliance audit for and electronic manufacturing facility including possible waste water violations associated with operation of the facility septic system.
- ◆ **Metal Fabrication Facility** Project Manager responsible for performing a multi-media environmental compliance audit for a metal fabrication facility. Program included preparation of necessary emissions reporting forms to bring facility into compliance and to assist in negotiations with regulatory agencies.
- ◆ **Apple Processing Facility** Project Manager responsible for performing a multi-media environmental compliance audit for an apple processing facility. Program included preparation of a Right-to-Know training program, an upgrading of the hazardous waste management program and the preparation of discharge permits to the local POTW.