

OHM Corporation

Blending Field Experience with Science

Featured Company:
OHM Corporation

Executive Offices:
Findlay, Ohio

Parent Company:
OHM Corporation

Primary Business Focus:
Comprehensive waste management services for business and government

Subsidiaries:
Environmental Testing and Certification Corp.
National Surface Cleaning
OHM Resource Recovery Corp.

OHM Solvent Processors and Reclaimers Corp.

Joint Venture:
Concord Resources (joint venture with Consolidated Rail Corporation)

Key Business Sectors:
Emergency response
Planned on-site remediation
- Engineering and design
- Mobile incineration
- Asbestos removal
- Bioremediation

Laboratory analysis and data management
Fixed-base treatment
Mobile solvent recycling

company is the largest planned on-site remediation company in the nation, according to James L. Kirk, CEO of OHM. Additionally, the company has expanded into analytical laboratory services, asbestos removal, fixed-base treatment and waste minimization. If all goes as planned in a joint venture with Consolidated Rail Corporation (Conrail), the company will compete directly with industry giants such as Chemical Waste Management, Inc., for cradle-to-grave waste management business.

Starting in the Sewers

OHM Corporation began in Findlay, Ohio in 1969 as Ohio Hygenic, a family firm founded by Robert Kirk and his four sons. The company focused on municipal wastewater treatment construction projects spawned by newly passed federal legislation requiring municipalities to upgrade or install such systems. "As part of our business we had a variety of equipment, such as vacuum hose trucks, that could be used in spill response," Kirk said.

The company built its business in the well planned world of municipal wastewater treatment construction. Then, in 1971 the company received a call that an oil transporter had been in an accident and was spilling oil near an Ohio Hygenic construction site. Could the company use its vacuum equipment to clean it up? The company said yes, and in so doing, began a new career.

For a while the company built both the emergency response business and

Most companies have a difficult time planning for environmental emergencies. Emergencies, by their very nature, imply danger, panic, loss of control, and unpredictability. The best preparation that most companies manage is an educated staff armed with the bare essentials of emergency response tools, and the phone number, taped next to the phone, of a good environmental response company. For many manufacturers and transporters that phone number leads to OHM Corporation based in Findlay, Ohio. The company has been in the emergency environmental response field for nearly 20 years and has built a reputation as one of the country's leading emergency response contractors.

Introduction

The risks in environmental response are not solely physical. Building a business around other companies' calamities offers financial risk as well. It is difficult to predict the number of people and types of equipment needed at any given time, and at any given place. Cash flow is another problem: what does a response company do if there haven't been any major accidents to help pay for the overhead. Short of sabotage, a certain amount of the business is left up to chance.

OHM leadership recognized these issues and moved into other business sectors, primarily on-site remediation. Today, with 1,800 employees and annual revenues of \$170 million, the

PROCESS FLOW CHART FOR UNDERGROUND RECOVERY & TREATMENT SYSTEM

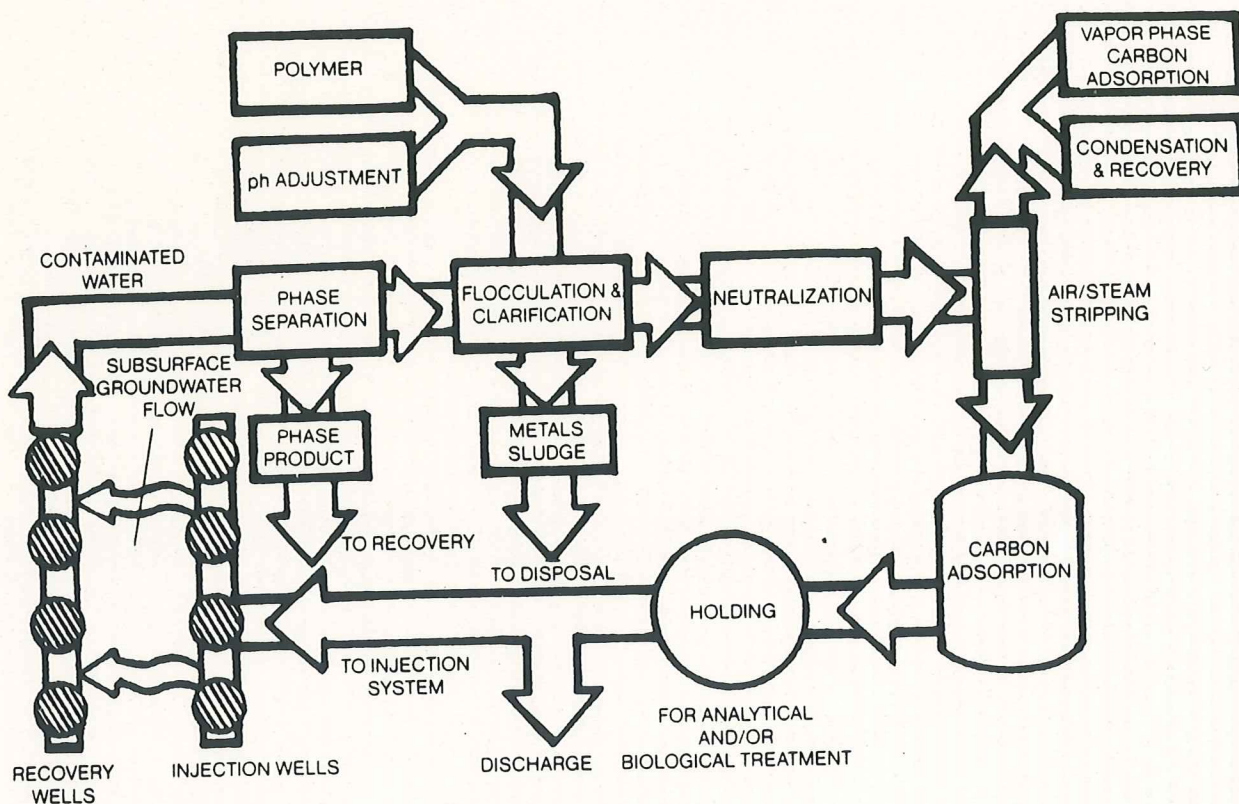


Figure 1

the municipal wastewater treatment business, but as the company evolved, the environmental work consumed a greater percentage of the business. By 1977 the company was generating more revenue from its environmental work than its construction business. The name of the division responsible for the environmental work was changed to Oil and Hazardous Materials. The company was already creating a name for itself as a leader in the environmental emergency response field. "We were able to develop some techniques that were unlike any others in the industry," said Kirk. "For example, we could patch compressed propane and hydrogen gas cars if they were leaking in a derailment, and offload them under [dangerous] situations."

A key turning point came on Earth Day 1980 when OHM received a call from the New Jersey Department of Environmental Protection (DEP). A

fire had started at a large abandoned chemical manufacturing site called Chem Control near Elizabeth. The site contained 60,000 barrels of unidentified chemical waste, which was the focus of the fire. OHM contracted to extinguish the fire and complete the site remediation, which included a contaminated building, groundwater contamination (see Figure 1), soil contamination and the 60,000 drums of unidentified waste. OHM completed the task in one year, half the time the New Jersey DEP projected.

"The people at OHM are innovators," said Pamela Beall, OHM treasurer, "and this project illustrates some of the important innovations that we have brought to the field." One of the most significant innovations was the drum grapppler. OHM engineers designed a machine that allowed workers to pick up drums while remaining in a protective cab with

clean air. The remote control pick-up arm was adapted from the logging industry to grasp barrels no matter how they lay in a dump. In addition, the Plexiglas-enclosed cab had fans continuously circulating bottled air. Today the drum grapppler is a standard piece of equipment at nearly all hazardous waste clean-up projects requiring drum removal.

OHM also designed and fabricated a compatibility chamber for bulk mixing of compatible hazardous chemicals. The company shredded the drums to reduce their volume at the landfill. OHM thinks it is the first company to shred drums for that purpose.

The Chem Control project "put OHM on the map," Beall said. The company gained broad recognition for its work there, and was able to leverage its income from the project to nearly double its staff, purchase several pieces of equipment, and open an office in New Jersey.

Perhaps more important than the increased size was a new recognition on the part of OHM management that they must move into planned remediation projects. Corporate leaders recognized that the emergency response niche did not offer adequate stability to support the larger fixed capital costs of expanded staff and equipment. They reasoned too that the passage of the Resource Conservation and Recovery Act (RCRA) four years before, and the recent passage of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) would convince business to move from responding only to emergencies to attacking environmental problems before they became emergencies. The company focused its marketing efforts for the next four years on maintaining the emergency response business while developing the planned remediation business. By 1985, OHM had a business mix of 10-20 percent emergency response and 80-90 percent planned remediation.

Acquisitions

Beginning in 1985, OHM entered an acquisition phase that it continues to pursue. The intent of the acquisition plan is to build a full service company. A full service company can lock out competitors and can ease the liability concerns of generators. The first major acquisition target was Environmental Testing and Certification Corp. (ETC), a single facility laboratory company based in Edison, New Jersey. ETC was formed in 1981 by three Carter administration United States Environmental Protection Agency administrators: Eckhardt C. Beck, Henry E. Beal, and Swep T. Davis. ETC's specialty was, and is, helping companies comply with monitoring and reporting regulations.

OHM and ETC consummated the merger in June 1986. At that time, OHM's annual revenues were about \$67 million and ETC's were about \$17 million. The merger was significant for OHM for two reasons. One, it built upon OHM's laboratory capabilities at Findlay, Minneapolis,

and Orlando. Two, it offered the company an avenue for going public. ETC was a publicly held company, and under the terms of the agreement, the Kirk family maintained 51 percent ownership of the combined company, with the company's stock becoming publicly traded. "As we looked at the environmental services industry, we saw that it had a very dynamic growth potential. We felt that the access to public capital, and additional notoriety would give us the best vehicle for development," Kirk said. The new public company was named Environmental Treatment and Technologies Corp., and was a holding company for ETC and OHM.

The name change, however, created confusion for customers and potential customers of OHM. After battling an identity problem in the marketplace for two and a half years, OHM decided to change its name to OHM Corporation in February 1989. "We realized it was more important to clarify things for the customers, and reeducate the shareholders than doing things the other way around," said Beall.

In December 1986 OHM acquired two more companies. One was a small laboratory in Baton Rouge, Louisiana. The other was a company specializing in sludge dewatering, also based in Louisiana. "Each of these companies generated less than \$2 million in annual revenues, but they gave us the geographic presence that we wanted," Beall said. In July 1987 OHM purchased another small laboratory company in Santa Rosa, California, which in addition to its existing laboratories, gave the company a national laboratory network.

OHM made three more important purchases in 1988: National Surface Cleaning, Inc., an asbestos abatement firm; SolidTek Systems, Inc., a fixed-base treatment facility; and SPAR, a mobile solvent recycling company.

National Surface Cleaning, Inc., is based near Boston. The company grossed \$18 million in 1987, and OHM purchased the company for \$27 million. Beall said the acquisition was important to OHM because it had previously subcontracted its asbestos

abatement services. The asbestos firm was important to OHM in reaching its full service goal.

OHM Resource Recovery Corp.

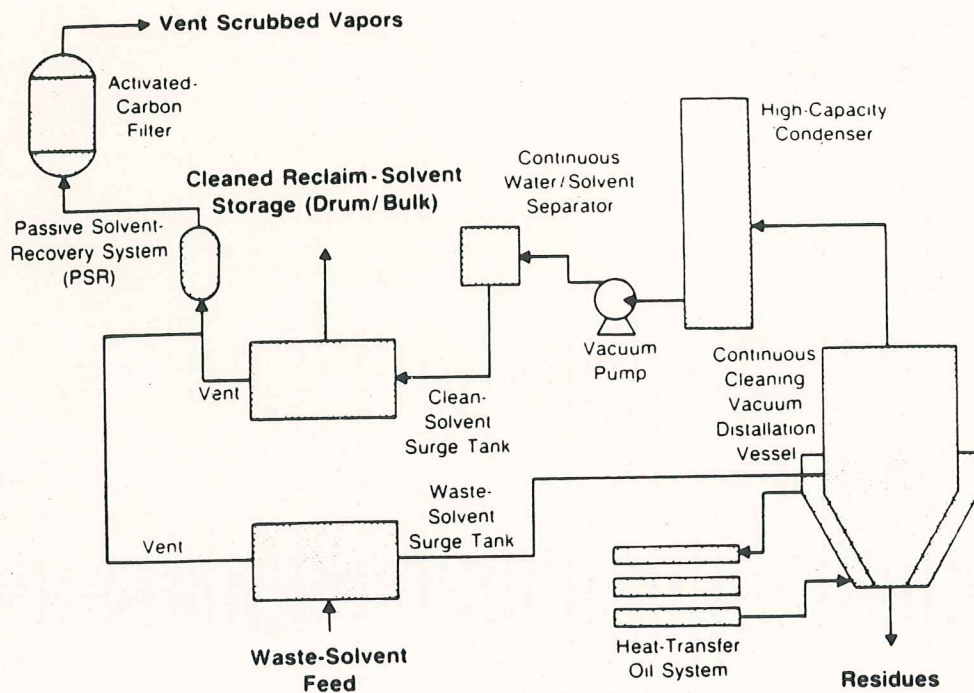
OHM Resource Recovery Corp., formerly SolidTek, is a fixed-base treatment facility near Atlanta. The acquisition is noteworthy because it represents OHM's first entry into fixed-base resource recovery and treatment services. The facility specializes in liquids and sludges from waste codes F001 to F005 (chlorinated and non-chlorinated solvents) and heavy metal sludges. OHM is a Cadence licensee, thus it offers that company's fuel blending technology, including solids fuel blending. The solids blending capabilities may become increasingly valuable as Cadence refines its technology and continues to operate on the leading edge of solids fuel blending (see *EI Digest*, September 1989). Cement kilns are the primary end users of the blended fuel. The facility also offers neutralization/detoxification, chemical fixation and aqueous treatment.

OHM received a Part B permit for the facility in June 1989 and Beall said that the company now has approval to double the capacity, which it plans to do over the next year and a half. Currently the facility grosses about \$10 million a year. Beall said she would not give specific details on the services to be added at the facility, but did say there would be new capabilities in addition to increased capacity.

SPAR

The Solvents Processors and Reclaimers (SPAR) acquisition adds to OHM's mobile service offering. SPAR was a two-person company that had developed a mobile solvent recycling technology (see Figure 2). The two individuals, David M. Smith and John C. Hogan, agreed to join OHM and manage the SPAR business.

The unit focuses on D001, F001, F002, F003, and F005 wastes, which are solvents used in a wide variety of manufacturing and cleaning processes. Historically, these solvents have



MOBILE SOLVENT-RECOVERY UNIT

Figure 2

been sent off-site for recycling with companies such as Safety-Kleen, or for disposal. OHM thinks the convenience and reduced liability of having the solvents processed on-site will persuade manufacturers to purchase the mobile service.

The mobile recycling unit achieves recovery rates of 80 to 90 percent and produces a high quality solvent that is monitored by a gas chromatograph. The unit typically processes 100 to 200 gallons of waste solvents an hour. OHM states that the set up, recycling and removal can frequently take place within one shift, depending on the volume and characteristics of the solvent waste streams. OHM transports the residue from the process off-site for treatment and disposal.

OHM targeted medium-sized generators for the technology; however, Beall said the company has been surprised by the number of large generators that have expressed interest in

the service. Large generators may need the unit on-site for a week or so. The company operates its only two units in the Dayton-Cincinnati area. A third unit is under construction. OHM has hired a company to construct the distillation unit, but will use its own fabrication staff to integrate the unit with the other components on the trailer.

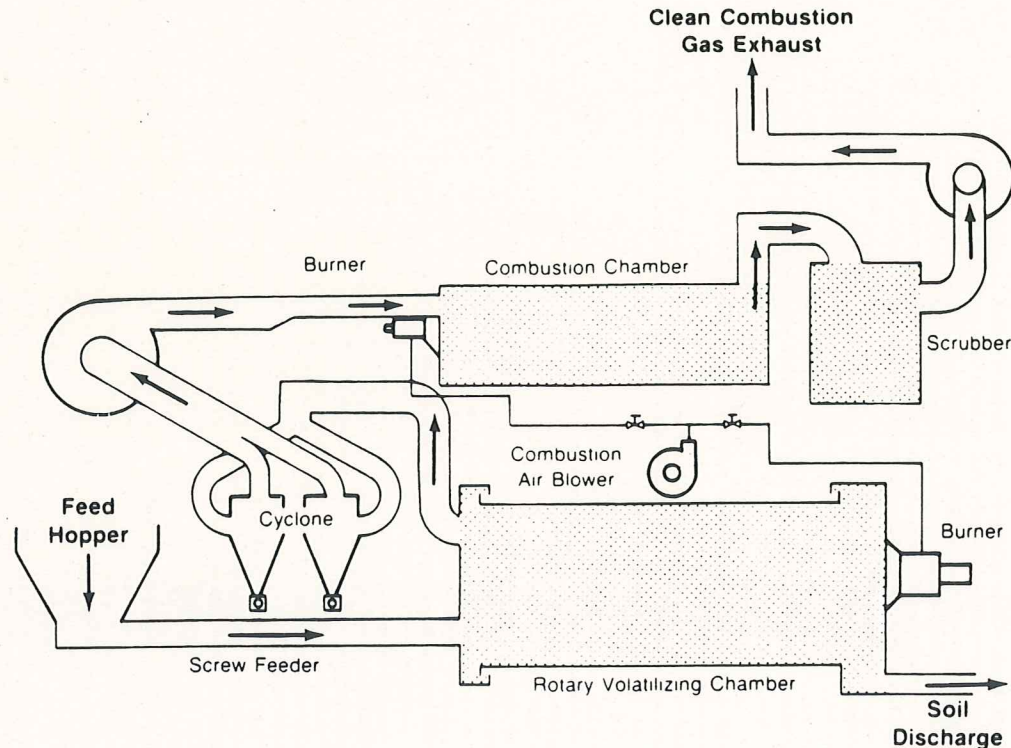
Concord Resources

Concord Resources is the name of the joint venture between OHM and Consolidated Rail Corporation that was announced in April 1989. The intent of the joint venture is to site, design, construct and operate full service waste treatment and disposal facilities for hazardous and non-hazardous markets. "We feel the market is ripe for top quality landfill, recycling and treatment facilities, and we feel we can provide those facilities," Kirk

said. "I see Concord becoming a very large player in this marketplace."

The joint venture is funded with \$10 million in equity, \$5 million from each company. Additionally, Conrail established a \$100 million revolving loan for Concord. The loan is non-recourse funding, meaning if the joint venture fails, neither OHM nor Concord will have to pay the debt. The top management for Concord includes Sweb Davis of OHM as CEO, Mike Cooper of OHM, and John Jenchura of Conrail.

The joint venture intends to build on the strengths of OHM's environmental experience and Conrail's transportation and marketing expertise. Ideally Concord would operate a facility in the Northeast that would have rail access and realize the economic benefits of rail transportation. William Green, of William Green and Associates, the company that is managing the public relations for Concord, said, "I don't



MOBILE THERMAL VOLATILIZATION SYSTEM

Figure 3

want to overemphasize the rail aspect. If we found a good location and there was no rail spur, then we would probably still go with that location."

Concord is considering both solid waste and hazardous waste facilities, but, the focus is currently on the hazardous waste sector. Concord would most likely enter the hazardous waste arena through building new facilities, whereas it would probably acquire solid waste landfills. As of November the company had not moved beyond preliminary discussions with any of the solid waste landfill acquisition candidates, however, "that doesn't mean it couldn't happen within the next few months," Green said.

The company is not willing to discuss specifics of technology at candidate sites because of community relations and competitive concerns; however, no specific treatment technologies would be ruled out. A likely facility might have a Subtitle C landfill, an in-

cinerator, a recycling plant and stabilization/fixation capabilities.

Based on the success of recent hazardous waste siting initiatives, Concord has a difficult task ahead. There has been only one hazardous waste landfill sited during the past ten years: the Last Chance Landfill in Colorado, owned by Browning-Ferris Industries, Inc. Enesco is nearing the completion of a siting effort in Arizona.

With the capacity assurance planning process, and increased state support, the likelihood of successful siting efforts may increase. "We don't think it will be easy to site a new facility," Kirk said, "but there is a tremendous need for a high quality facility. With RCRA laws in place stating that each state has to account for its own waste, it's almost mandatory that some of these new facilities will be sited."

Concord is putting its main emphasis on siting a facility in Pennsylvania, with second emphasis on West Vir-

ginia. Pennsylvania passed Act 108, the Hazardous Sites Clean-up Act, in November of 1988, which recommends the in-state management of waste. One of the state's recommendations includes two landfills for Pennsylvania, one in the west and one in the east. The first part of the program encourages private companies to pursue siting efforts, with the goal of having a facility permitted by July of 1992. Karl Shaeffer, hazardous waste siting team leader, said that a number of companies have shown interest in the projects, but he would not divulge their names. If private companies are unable to site a facility by the 1992 deadline, the state will establish a siting board to conduct the siting process. Shaeffer said the state would not consider operating the facility itself.

Beth Heming, a financial analyst with The Chicago Corporation, said that she thinks the joint venture should be

able to compete well in the waste management marketplace. "They aren't going to catch Chem Waste in the hazardous market, but that doesn't mean there isn't enough business for them. There are very few facilities in the Northeast." On the solid waste side, Heming noted that there is an increasing trend for cities to transport solid waste by rail. Los Angeles has been doing so, and Santa Fe is working out an agreement to do so now.

Technology

"By and large," said Jurgen Exner, senior vice president of technical development for OHM, "we tend to bring to the marketplace on-site treatment systems for specific markets." That strategy grew, no doubt, from OHM's career as an emergency response contractor where mobility and on-site treatment capabilities were the essential qualities for success. Earlier this year OHM was able to announce that it held the first national Toxic Substances Control Act permit for its mobile infrared incinerator, designed to incinerate soils contaminated with PCBs and other pollutants. OHM also offers mobile thermal treatment of hydrocarbon contaminated soils and bioremediation services.

● Mobile Infrared Incinerator

OHM's mobile infrared incinerator incinerates soils contaminated with PCBs and other pollutants. The unit travels on eight trailers and can be operating within two weeks of reaching the site. Most mobile rotary kiln incinerators take up to a month for setup.

OHM purchased the primary combustion chamber from Shirco Infrared Systems (now a division of ECOVA Corp.) and modified it extensively, according to Exner. The unit can incinerate approximately 160 tons of contaminated soil a day, depending on the extent of the contamination and the water content of the soil. Exner said the unit is cost effective for projects containing from 2,000 to 30,000 tons of soil.

The primary heating chamber heats the contaminated soil with electrically heated silicon carbide rods installed along 48 feet of the 61-foot-long primary heating chamber. This energy volatilizes and partially burns the organic contaminants. The operator controls the residence times, which range from 10 to 90 minutes. After treatment, the ash is tested, and if it tests non-hazardous, it is used to fill the excavation on-site. About 1 to 2 percent of the ash needs to be re-incinerated.

The volatilized organics are carried into the secondary chamber where they are mixed with excess combustion air and heated to 2,200 degrees Fahrenheit. The residence time is four seconds. The system produces about 20 pounds of sludge for each ton of soil, depending on the soil characteristics. If the sludge is non-toxic, it is disposed of with the ash. If the sludge is toxic, it is treated and disposed of off-site. (See *EI Digest*, March 1989, page 9, for a more thorough discussion of this technology.)

● Mobile Thermal Volatilizer

The mobile thermal volatilizer (see Figure 3) is designed for remediation projects involving soil contaminated with hydrocarbons — primarily gasoline, diesel fuel and other aromatics. During the past two years OHM has designed, built and tested two versions of the unit, which are currently available. The first version is cost effective on a project as small as 500 tons; the second version is cost effective on projects between 1,000 and 10,000 tons.

The units are rotary kilns that OHM has designed to be very mobile. Technicians can set up the unit within two days. The volatilizers can run between three and ten tons an hour, depending on the heat capacity of the waste and the water content.

One of the main advantages of the unit is that it needs only state air permits to operate. "While state air permits are not easy to obtain, they are certainly easier than RCRA permits," Exner said.

OHM is building a third unit that should be available within the next six months to a year. "That will hopefully be our best version yet," said Exner, although he would not elaborate on how it would differ from the previous units.

● Bioremediation

While OHM has carved a reputation as an emergency response contractor, most people do not think of the company as a bioremediation firm. OHM has, however, completed over 35 bioremediation contracts during the past 10 years. Its first bioremediation project was in 1976. Historically, the company has focused these efforts in emergency response situations where contaminants have spilled and rapidly moved through the soil. Typical target substances have been gasoline, diesel fuel, ethylene glycol, methyl ethyl ketone, and other biodegradable substances.

Exner said the company is marketing the technology to companies on a planned basis, as opposed to emergency response exclusively. The key target markets are wood treating chemicals, fuel contaminants in groundwater, and PCBs in soil. "OHM has always been an applications, field-based company. We are trying to blend that experience with the science," said Exner.

Bioremediation will play an increasing role in OHM's service mix as the company moves to incorporate the treatment further and further up the waste production process. The company is putting a large emphasis on using bioremediation to treat contaminated sludges, as well as soils. Exner sees a day when companies may have a little box on a number of process streams or effluent streams that would detoxify, or destroy the waste on the site. "The science appears to be here. It is a matter of application," he said. OHM has a group of eight people working in the bioremediation area now, plus the field support of the entire company. OHM's bioremediation efforts earn \$5 million to \$10 million a year in gross revenues.

Five-Year Summary of Results of Operations					
<i>(in thousands, except per share amounts)</i>					
Years Ended December 31	1988	1987	1986	1985	1984
Gross revenues	\$ 171,024	\$ 137,027	\$ 101,420	\$ 82,790	\$ 55,786
Less direct subcontract costs	39,111	38,595	25,131	15,728	9,982
Net Revenues	131,913	98,432	76,289	67,062	45,804
Cost of services	82,242	62,252	42,771	34,942	24,525
Gross Profit	49,671	36,180	33,518	32,120	21,279
Selling, general and administrative expenses	32,382	30,543	24,151	21,679	14,685
Operating Income	17,289	5,637	9,367	10,441	6,594
Other (income) expenses:					
Investment income	-922	-1,657	-1,109	-1,241	-487
Interest expense	5,297	4,637	2,220	1,562	1,209
Nonrecurring affiliation costs	-	-	2,239	-	-
Miscellaneous, net	196	-1,151	25	34	-20
	4,571	1,829	3,375	355	702
Income before Income Taxes and Extraordinary Credit	12,718	3,808	5,992	10,086	5,892
Income taxes	4,833	1,390	3,483	4,685	2,641
Income Before Extraordinary Credit	7,885	2,418	2,509	5,401	3,251
Extraordinary Credit	-	-	276	1,613	160
Net Income	\$ 7,885	\$ 2,418	\$ 2,785	\$ 7,014	\$ 3,411
Net income per share:					
Before extraordinary credit	\$ 0.64	\$ 0.20	\$ 0.21	\$ 0.47	\$ 0.34
Extraordinary credit	-	-	0.02	0.14	0.02
	\$ 0.64	\$ 0.20	\$ 0.23	\$ 0.61	\$ 0.36
Weighted average number of common and common equivalent shares outstanding	12,312	12,021	11,891	11,448	9,445
Five-Year Summary of Financial Position					
<i>(in thousands)</i>					
December 31	1988	1987	1986	1985	1984
Working Capital	\$ 45,115	\$ 43,122	\$ 52,807	\$ 19,543	\$ 8,015
Total Assets	168,439	122,409	114,394	58,312	32,279
Noncurrent Liabilities	75,631	59,108	59,593	10,579	9,940
Stockholders' Equity	51,079	36,970	34,677	28,933	12,001

Table 1

● Minimization

OHM has always been a pragmatic company, trying to find ways to fix problems. The company's minimization initiative is a continuation of that ethic as the company moves onto client's facilities and works with them to reduce the waste at the source. "People can expect to see OHM offering more of a joint solution to their problems in the future," Exner said. Minimization also offers an excellent means of building a strong relationship with a company at the earliest point in the waste stream, and leveraging that relationship to garner other business.

One of OHM's biggest success stories in the minimization area came with a company that was spending \$2 million a year in waste disposal costs. The company had a number of proposals for specific treatment options from various vendors, but OHM analyzed the entire system. "We looked at where it is formed, why it is formed, what happens to it. Then we examined optional production methods," Exner said. OHM saved the company \$200,000 simply by separating various waste streams. The client may save up to a million dollars a year when the project is complete.

OHM also brings its fabrication skills to bear in its minimization work. The fabrication division is called on to make prototypes of treatment systems to help determine the best means for making an effective solution. The division may build a larger working model if the project is approved.

"I don't want to mislead you," Exner said, "there are times when you look at a system and there is really not a lot you can do, based on the economics and regulations. But many times you can have some real success stories."

Business Outlook

OHM had a slow start this year as the company showed a loss of \$0.13 per share during the first fiscal quarter, ended March 31. They made progress during the second quarter, turning a profit of \$0.03 per share, and im-

proved upon that during the third quarter with earnings of \$0.23 per share. (See Table 1 for earnings report.) Beall said that the change in administration caused a number of regulatory delays, which in turn postponed the startup of many government and private sector clean-ups. Those delays caused the downturn that the company experienced this year. The slump came at a bad time for OHM because it was managing greater fixed capital costs from the purchase of National Surface Cleaning and SolidTek, and development of technologies in anticipation of greater market growth. Now that the Bush administration is more settled in, she is more optimistic that government funds will begin flowing as projected.

OHM has reason to hope the government will finally get to its task of cleaning up the many Superfund sites. The company has two contracts totaling \$100 million with the Army Corps of Engineers. Those projects involve clean-ups at government sites nationwide. In these contracts, the Army acts as an administrator selecting contractors and overseeing the project on behalf of the Department of Defense, the Department of Energy and other government agencies.

OHM has two more contracts totaling \$45 million for Emergency Response Clean-up Services (ERCS) for ERCS Zones I and II. The contracts are for projects requiring no more than \$2 million worth of work, and lasting no longer than two years. They are high priority projects that the USEPA has determined represent a significant threat to human health and the environment.

In addition to the downturn in remediation projects, the company struggled to keep its analytical laboratories busy. Beall said that the company faced competition from laboratories that focus on the government sector, but turned to the private sector when government funds slowed. The pace of laboratory activity has increased during the fourth quarter, she said, but the annual

revenues from that division will not likely reach those of last year.

Looking ahead, Kirk sees the primary growth opportunities for the next five to ten years to be in the planned on-site remediation work. "This will be a constantly expanding and growing industry, but it will also see a fair amount of consolidation as larger companies try to buy marketing position and the best technology."

Kirk also thinks one of the primary components of success will be the types of people OHM will be able to attract. "We need people who are able to be both creative and technical because many of the technologies that will be needed in these massive clean ups are not available today."

In some ways the evolution of OHM reflects the evolution of the industry itself. Before RCRA and CERCLA mandated environmental responsibility, companies only responded to emergency environmental accidents. As business had to clean up past disposal sites, OHM moved into that arena. Now as the federal government encourages business to reduce waste at the source, OHM has developed services to help generators minimize waste production. A significant percentage of the company's future hinges on government willingness to get on with the clean-up effort. If the administration lives up to its promises, the company should be well positioned to take advantage of the increased spending during the coming decade. If the government continues to procrastinate, OHM may continue to face uneven earnings. Δ