



ENVIRONMENTAL BUSINESS INTERNATIONAL, INC.

Research, Consulting and Publishing for the Environmental Industry

EBI REPORT 119

Environmental Testing & Analytical Services

Overview of Markets and Competition

Winter 2011

Report 119 Testing & Analytical Services

Table of Contents

1	Testing & Analytical Services.....	9
1.1	Acknowledgements.....	9
1.1.1	<i>Authors and Sources</i>	9
1.1.2	<i>EBJ's Market Research Method</i>	9
1.1.3	<i>Company Databases</i>	10
1.2	Survey Instruments	11
1.2.1	<i>Disclaimer</i>	11
1.2.2	<i>Copyright</i>	12
1.3	Executive Summary.....	13
1.4	Overview of Environmental Lab Services	21
1.5	Development of the Environmental Testing Industry.....	23
1.6	Annual Trend Review	25
1.6.1	<i>2011 Trend Review</i>	25
1.6.2	<i>2009 Trend Review</i>	32
1.6.3	<i>2008 Trend Review</i>	44
1.6.4	<i>2007 Trend Review</i>	47
1.6.5	<i>2005 Trend Review</i>	55
1.6.6	<i>2004 Trend Review</i>	66
1.6.7	<i>2003 Trend Review</i>	71
1.6.8	<i>2002 Trend Review</i>	80
1.6.9	<i>Lab Executives Discuss the Market in 2002</i>	85
1.6.10	<i>Profile: 2002 Lab Leader STL</i>	90
1.7	Market Segmentation for Environmental Testing & Analytical Services.....	92
1.7.1	<i>Market Segmentation by Client Type</i>	94
1.7.2	<i>Government Markets</i>	99
	Federal Markets.....	99
	State Government Markets.....	101
	Local Government Markets.....	101
1.7.3	<i>Environmental Industry Markets</i>	102
	Environmental Consulting & Engineering Firms.....	103
	Remediation Firms.....	104
	Hazardous Waste Management Firms.....	104
	Solid Waste Firms.....	105
	Other Environmental Companies.....	105
1.7.4	<i>Direct Industrial Markets</i>	105
	Petroleum Marketing and Distribution.....	106
	Petroleum Exploration and Refining.....	107
	Chemicals and Plastics.....	107
	Electric Utilities.....	108
	Other Industrial Markets.....	108
1.7.5	<i>Market Segmentation by Sample Media</i>	108
1.7.6	<i>Market Segmentation By Service</i>	112
1.7.7	<i>Geographic Distribution of US Environmental Testing & Analytical Services Markets</i>	112
1.7.8	<i>Projected Growth in Markets for Environmental Testing and Analytical Services</i>	114
1.8	Competitive Structure of the Industry.....	115
1.8.1	<i>Lessons Learned: Capacity Adjustments and Trends in the late 1990s</i>	119
	Failed Attempts to Reorganize under Bankruptcy Laws.....	119
	Alleged Data Integrity Problems.....	120
	Closures due to Economic and Competitive Pressures.....	121
1.8.2	<i>The 1990s: Large Environmental Lab Companies in Transition</i>	122
1.8.3	<i>Large Environmental Lab Companies 2003 - 2006: Survey and Analysis</i>	135
1.8.4	<i>Market Drivers: Executive Comments</i>	146
1.8.5	<i>Survey Comments: Key Industry/Market Issues</i>	146

1.8.6	<i>Survey Comments: Key Business Issues</i>	147
1.9	Large Company Profiles	148
	Environmental Science Corp.....	148
	Alpha Analytical	150
	TestAmerica (2004)	152
	Accutest (2004).....	155
	Severn Trent Laboratories (2003)	157
	Severn Trent Laboratories (2002)	160
	Core Laboratory (1997)	164
	Quanterra (1997; Acquired by STL in 2000)	166
	Savannah Laboratories & Environmental Services, Inc. (1997; Acquired by STL in 1999).....	167
	American Environmental Network (AEN; 1997).....	169
	Sequoia Analytical (1998; Acquired by TestAmerica in 2004)	172
1.9.1	<i>Medium-Sized Environmental Testing Companies</i>	175
1.9.2	<i>Medium Size Company Profiles</i>	177
	Continental Analytical Services Inc. (1995)	177
	Hydrologic Inc. (1995).....	179
	En Chem (1997).....	180
	Montgomery Watson (1997).....	183
	AXYS Analytical Services (2004)	185
1.9.3	<i>Small Environmental Testing Companies</i>	188
1.9.4	<i>Small Company Profiles</i>	188
	Metropolitan Laboratories Inc (2004).....	188
1.9.5	<i>New Entrants in the 90s</i>	191
1.10	Technological Developments.....	192
1.10.1	<i>Categorization of Technical Change</i>	193
1.10.2	<i>Gains in Lab Productivity in Instrumentation</i>	193
1.10.3	<i>Going Paperless</i>	196
1.10.4	<i>Corporate Attitudes Towards Automation</i>	200
1.10.5	<i>Field Sampling and Collection</i>	200
1.10.6	<i>Sample Shipment and Handling</i>	201
1.10.7	<i>Sample Preparation</i>	202
1.10.8	<i>Data Management and Analysis</i>	203
1.10.9	<i>Immunoassay Techniques</i>	203
1.10.10	<i>Long-Term Impact of New Technology</i>	204
1.10.11	<i>Company Profiles in Technology</i>	206
1.11	Mergers and Acquisitions	208
1.11.1	<i>Merger and Acquisition Trends in The Analytical Laboratory Business: Early History</i>	208
1.11.2	<i>What's Driving Consolidation?</i>	209
1.11.3	<i>Valuation Trends</i>	209
1.11.4	<i>Deal Structures</i>	211
1.11.5	<i>M&A Activities: 2007 Update</i>	212
1.11.6	<i>M&A Activities: 2003 - 2004 Update</i>	220
1.11.7	<i>What Does the Future Hold?</i>	221
1.12	Operations Management and Success Factors	222
1.12.1	<i>Analytical Reporting and Business System Automation</i>	222
1.12.2	<i>Professional Business Management Systems</i>	223
1.12.3	<i>Exploitation of New Instrumentation Technologies</i>	223
1.12.4	<i>Creative and Flexible Labor Force Management</i>	224
1.12.5	<i>Professional Marketing and Sales</i>	226
1.12.6	<i>Sales and Marketing Budgets</i>	226
1.12.7	<i>Sales and Marketing Staff</i>	229
1.12.8	<i>Sales and Marketing Reporting Structure</i>	230
1.12.9	<i>Sales and Marketing Focus</i>	230
1.12.10	<i>Compensation of Sales and Marketing Staff</i>	231
1.13	Summary of Management Challenges	232
1.13.1	<i>Results of the 2008 and 2010 Snapshot Surveys</i>	234

Report 119 Testing & Analytical Services

List of Exhibits

Exhibit 1-1	Historical Growth in the US Analytical Services Market, 1988 - 2012.....	13
Exhibit 1-2	Historical and Projected Growth in the US Analytical Services Market, 1970 - 2020	14
Exhibit 1-3	Environmental Lab Pricing: Survey Responses 2005-2006.....	16
Exhibit 1-4	Environmental Lab Pricing: Survey Responses: 2000-2006.....	16
Exhibit 1-5	The Importance of Various Competitive Factors in Environmental Testing	18
Exhibit 1-6	Range of Profitability by 2007 Survey Respondents	21
Exhibit 1-7	Historical and Projected Growth in Environmental Testing & Analytical Services, 1970 - 2020	25
Exhibit 1-8	U.S. Environmental Testing Market: 2005-2012 (\$mil)	26
Exhibit 1-9	List of Top Environmental Labs in 2010	30
Exhibit 1-10	Top 20 Environmental Laboratories in 2010	42
Exhibit 1-11	Top 21-50 Environmental Laboratories in 2010	43
Exhibit 1-12	Top Five Environmental Labs— Productivity*	44
Exhibit 1-13	Top 20 Environmental Testing & Analytical Services Firms, 2006	48
Exhibit 1-14	Size Distribution: EBI Lab Survey Respondents in 2007	49
Exhibit 1-15	Top 20 Environmental Testing & Analytical Services Firms, 2004	58
Exhibit 1-16	Top Environmental Testing & Analytical Services Firms by Productivity, 2004.....	62
Exhibit 1-17	Distribution of Companies and Revenues in Environmental Testing & Analytical Services, 2003	67
Exhibit 1-18	Top 20 Environmental Testing & Analytical Services Firms, 2003	69
Exhibit 1-19	Top 20 Environmental Testing & Analytical Services Firms, 2002	75
Exhibit 1-20	Other Major Environmental Testing & Analytical Services Firms, 2002.....	76
Exhibit 1-21	Top Environmental Testing & Analytical Services Firms, 2001	84
Exhibit 1-22	Distribution of Companies and Revenues in Environmental Testing & Analytical Services, 2001	84
Exhibit 1-23	Distribution of Companies and Revenues in Environmental Testing & Analytical Services, 1993	84
Exhibit 1-24	Distribution of Companies and Revenues in Environmental Testing & Analytical Services, 1996	85
Exhibit 1-25	Distribution of Companies and Revenues in Environmental Testing & Analytical Services, 2002	85
Exhibit 1-26	Distribution of Companies and Revenues in Environmental Testing & Analytical Services, 2008	85
Exhibit 1-27	Total Environmental Lab Market by Customer, 2006-2009	93
Exhibit 1-28	Total Environmental Lab Market by Customer, 2006-2009	93
Exhibit 1-29	2006-2010 U.S. Total Environmental Lab Market by Customer	95
Exhibit 1-30	Environmental Lab Market: Survey Response Ranking of Growth by Customer 2010-2010..	96
Exhibit 1-31	Market Breakdown by Client Type, 1997	96
Exhibit 1-32	Market Breakdown by Client Type, 2000.....	97
Exhibit 1-33	Market Breakdown by Client Type, 2004.....	97
Exhibit 1-34	Market Breakdown by Client Type, 2006: Total Environmental Testing & Analytical Revenues in 2006 = \$1.84 Billion.....	98
Exhibit 1-35	Total Environmental Testing & Analytical Revenues in 2009 = \$1.86 Billion	98
Exhibit 1-36	Distribution Government-Related Revenues, 2009.....	99
Exhibit 1-37	Distribution of Revenues from Environmental Services Companies, 2010.....	103
Exhibit 1-38	Distribution of Revenues from Industrial Markets, 2010.....	106
Exhibit 1-39	Distribution of Revenues by Sample Media, 2010.....	109
Exhibit 1-40	Estimated Number of Sites and Remediation Cost, 2004-2033	110
Exhibit 1-41	Environmental Lab Market: Survey Response Growth Forecast by Sample Type 2007-2010	110
Exhibit 1-42	Environmental Testing and Analytical Services Markets by Sample Media, 1997-2012.....	111

Exhibit 1-43	Distribution of Revenues by Service.....	112
Exhibit 1-44	Markets for Environmental Testing & Analytical Services by State	114
Exhibit 1-45	Annual Growth of Environmental Testing Business, 2000-2012	115
Exhibit 1-46	Distribution of Companies and Revenues in Environmental Testing & Analytical Services: 1993, 1996, 2003 and 2004 (\$ million)	116
Exhibit 1-47	Distribution of Industry Revenues by Firm Size, 1996 and 2004.....	118
Exhibit 1-48	Fate of The Top Environmental Lab Firms at Year-End, 1993	124
Exhibit 1-49	The Top U.S. Environmental Labs, 1995	126
Exhibit 1-50	Typical Revenues Declines: 1992 vs. 1996	127
Exhibit 1-51	The Top U.S. Environmental Labs, 1996	128
Exhibit 1-52	The Top U.S. Environmental Labs, 1997	130
Exhibit 1-53	The Top U.S. Environmental Labs, 1998	131
Exhibit 1-54	The Top U.S. Environmental Labs, 2000	132
Exhibit 1-55	The Top U.S. Environmental Labs, 2001	133
Exhibit 1-56	The Top U.S. Environmental Labs, 2002	134
Exhibit 1-57	Top 20 Environmental Labs Companies 2006.....	135
Exhibit 1-58	Environmental Lab Productivity: Lab Survey Responses 2005-2006	136
Exhibit 1-59	Environmental Lab Productivity: Survey Responses 2000-2006.....	137
Exhibit 1-60	Lab Productivity: Top 5	138
Exhibit 1-61	The Top U.S. Environmental Labs, 2003	139
Exhibit 1-62	Productivity of the Top Labs, 2003 (Revenues per Employee)	140
Exhibit 1-63	Environmental Lab Productivity: Lab Survey Responses 2005-2006	143
Exhibit 1-64	Environmental Lab Productivity: Survey Responses 2000-2006.....	144
Exhibit 1-65	The Top U.S. Environmental Labs, 2004	145
Exhibit 1-66	Productivity of the Top Labs, 2004 (Revenues per Employee)	145
Exhibit 1-67	STL Flurry of Acquisitions, 1998-2001.....	164
Exhibit 1-68	Selected Mid-Sized Environmental Lab Firms at Year-End 1995.....	177
Exhibit 1-69	Environmental Lab Productivity Top Ten, 2005 (Revenues per FTE Employee)	199
Exhibit 1-70	Relative Importance of Technological Changes to the Lab Business	204
Exhibit 1-71	Environmental Laboratories: Valuation Trends.....	210
Exhibit 1-72	Selected Recent Key Lab Mergers and Acquisitions 1996-1998.....	212
Exhibit 1-73	Significance of Labor Force Management by Lab Size.....	224
Exhibit 1-74	What Steps are You Taking to Increase Flexibility and Control (Percentage of All Responses)	225
Exhibit 1-75	How Much Environmental Lab Firms Spend on Sales & Marketing	227
Exhibit 1-76	Percent of Gross Revenues Spent on Sales and Marketing at Environmental Firms	228
Exhibit 1-77	Breakdown of Sales and Marketing Budgets at Labs	228
Exhibit 1-79	Expected Growth in Sales and Marketing Budget	229
Exhibit 1-80	Size of Sales & Marketing Staff at Environmental Lab and Testing Firms	230
Exhibit 1-81	Sales Reporting Structure.....	230
Exhibit 1-82	Focus of Sales Force at Environmental Lab Firms	231
Exhibit 1-83	Lab Firms' Sales Compensation Programs (Percentage of All Responses).....	232
Exhibit 1-84	Key Elements of Success	233
Exhibit 1-85	Testing & Analytical Services Sales Growth in 2007	234
Exhibit 1-86	Testing & Analytical Services Forecasted Sales Growth Over Next 2-3 Years	235
Exhibit 1-87	Prospects for Sales Growth in next 2 Years.....	236
Exhibit 1-88	Testing & Analytical Services Forecasted Sales Growth Over Next 2-3 Years	237
Exhibit 1-89	Testing and Analytical Services Sales Growth By Region in 2007	238
Exhibit 1-90	Testing and Analytical Services Forecasted Sales Growth By Region over next 2-3 Years	238
Exhibit 1-91	Sales Growth by Region 2007	239
Exhibit 1-92	Forecasted Sales Growth Over Next 2-3 Years	239
Exhibit 1-93	Environmental Services: Forecasted Sales Growth in 2-3 Years.....	240
Exhibit 1-94	Impact of Market Drivers on Revenues in 2008	241
Exhibit 1-95	Impact of Market Drivers on Revenues	242
Exhibit 1-96	Opinion Question	243

Exhibit 1-97 Opinion Question 243
Exhibit 1-98 Opinion Question 244

Disclaimer Notice:

All the lists in this report are the result of independent research and surveys by Environmental Business Journal, Inc. and/or TechKNOWLEDGEy Strategic Group. In some cases, figures are approximations derived from executives, analysts, and reputable business information sources. Although EBI and TechKNOWLEDGEy have made every reasonable effort to be accurate, figures are not the result of internal or external audits and are therefore not guaranteed to be accurate. Errors and omissions are unintentional.