

THE GLOBAL MARKET FOR FRACKING FLUIDS



EGY122A
November 2014

Gordon Nangmenyi
Project Analyst

ISBN: 1-56965-986-9



BCC Research
49 Walnut Park, Building 2
Wellesley, MA 02481 USA
866-285-7215 (toll-free within the USA),
or (+1) 781-489-7301
www.bccresearch.com
information@bccresearch.com

TABLE OF CONTENTS

TOPIC	PAGE NO.
CHAPTER 1 INTRODUCTION	2
STUDY GOALS AND OBJECTIVES	2
REASONS FOR DOING THE STUDY	3
SCOPE OF REPORT	4
INTENDED AUDIENCE	4
INFORMATION SOURCES	5
ANALYST'S CREDENTIALS	5
RELATED BCC RESEARCH REPORTS	5
BCC RESEARCH WEBSITE	6
DISCLAIMER	6
CHAPTER 2 SUMMARY	8
<i>SUMMARY TABLE GLOBAL MARKET FOR FRACKING FLUIDS REVENUES, THROUGH 2019 (\$ MILLIONS)</i>	8
<i>SUMMARY FIGURE GLOBAL MARKET FOR FRACKING FLUIDS, 2013-2019 (\$ MILLIONS)</i>	9
CHAPTER 3 OVERVIEW	12
INDUSTRY DEFINITION	12
HYDRAULIC FRACTURING TECHNOLOGY DEFINITION	12
Liquid-Based Fracking	12
Gas-Based Fracking	13
FRACKING FLUID PRODUCT DEFINITION	13
<i>TABLE 1 TOTAL FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES FOR SHALE GAS, TIGHT OIL AND COAL BED METHANE, 2013 (TCF = TRILLION CUBIC FEET)</i>	13
<i>FIGURE 1 TOTAL FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES FOR SHALE GAS, TIGHT OIL AND COALBED METHANE, 2013 (%)</i>	13
<i>TABLE 2 TOTAL USAGE FRACKING FLUIDS BASED ON TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE, 2013 (BILLION POUNDS)</i>	15
<i>FIGURE 2 TOTAL FRACKING FLUID FROM TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE, 2013 (% USAGE)</i>	15
<i>TABLE 3 CHEMICAL ADDITIVE USAGE BASED ON TOTAL TRR FOR OIL AND GAS IN REGIONAL MARKET, 2013 (BILLION POUNDS)</i>	16
<i>TABLE 4 CHEMICAL ADDITIVE USAGE BASED ON TOTAL TRR FOR OIL AND GAS IN REGIONAL MARKET, 2013 (BILLION POUNDS)</i>	16
<i>TABLE 5 TOTAL FRACKING FLUID MARKET BASED ON TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE BY REGION, 2013 (\$ BILLION)</i>	17
<i>FIGURE 3 TOTAL FRACKING FLUID REVENUES BASED ON TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE BY REGION, 2013 (\$ BILLIONS)</i>	17
<i>TABLE 6 TOTAL MARKET FOR CHEMICAL ADDITIVES BASED ON TRR FOR OIL AND GAS BY REGION, 2013 (\$ BILLION)</i>	18
<i>TABLE 7 TOTAL MARKET FOR CHEMICAL ADDITIVES BASED ON TRR FOR OIL AND GAS BY REGION, 2013 (\$ BILLION)</i>	19
IMPORTANCE OF THE INDUSTRY	19
IMPORTANT INDICATIONS FOR THE INDUSTRY	20
TECHNOLOGY LIFE CYCLE	21
GOVERNMENT REGULATIONS	22

TOPIC	PAGE NO.
MARKET DRIVERS	22
INCREASING GEOPOLITICAL TENSIONS	22
GROWTH OF NATURAL GAS IN THE TRANSPORTATION INDUSTRY	23
TREND TOWARD GREATER CONTROL OVER ENERGY RESOURCES	23
RISING GLOBAL ENERGY PRICES	23
INCREASING REGULATORY FRAMEWORKS IN MOST COUNTRIES	23
OTHER FACTORS THAT SUPPORT A GROWTH TREND	23
MARKET HEADWINDS	24
FORESEEABLE FUTURE DEVELOPMENTS	24
OPPORTUNITY SUMMARY BY ENERGY TYPE	25
<i>TABLE 8 TOTAL GLOBAL USAGE OF FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (BILLION POUNDS)</i>	25
<i>TABLE 9 TOTAL GLOBAL USAGE OF CHEMICAL ADDITIVES BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (BILLION POUNDS)</i>	26
<i>TABLE 10 GLOBAL MARKET FOR FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (\$ BILLION)</i>	26
<i>TABLE 11 GLOBAL MARKET FOR CHEMICAL ADDITIVES BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (\$ BILLION)</i>	27
CHAPTER 4 GLOBAL MARKET FOR FRACKING FLUIDS BY CONSTITUENTS	30
TYPES OF HYDRAULIC FRACTURING	31
HORIZONTAL FRACTURING	31
PLUG AND PERFORATE METHOD	32
COIL TUBE FRACTURING	32
ZIPPER FRACKING	33
WATERLESS FRACKING	33
HYDRAJET-ASSISTED FRACTURING	33
FACTORS THAT AFFECT THE FRACTURING BEHAVIOR	33
FRACKING FLUID SYSTEMS	34
TYPES OF FLUID SYSTEMS	34
<i>TABLE 12 SUMMARY OF FRACKING FLUID SYSTEMS (% OF FRACTURING TREATMENTS)</i>	35
<i>FIGURE 4 SUMMARY OF FRACKING FLUID SYSTEMS (% OF FRACTURING TREATMENTS)</i>	35
Aqueous Fluid Systems	36
Slickwater Fluids	36
FRACKING FLUID COMPONENTS	36
<i>TABLE 13 LIST OF CONVENTIONAL FRACKING FLUIDS (AVG. MASS %)</i>	37
Carrier Fluids	39
Proppants	40
Gelling Agents	40
Iron Control Agents	40
Breaker Fluids	41
Corrosion Inhibitors	41
pH Adjusters	41
Biocides	41
Friction Reducers	41
Surfactants	41
Crosslinking Agents	42

TOPIC	PAGE NO.
Acids	42
Solvents	42
Scale Inhibitors	42
Clay Stabilizers	42
Market by fluid components	43
<i>TABLE 14 FRACKING FLUIDS - MARKET SHARE BY USAGE VOLUME AND REVENUES, 2014 (%)</i>	43
<i>FIGURE 5 MARKET SHARE BY USAGE VOLUME, BY CONSTITUENTS 2014 (%)</i>	44
<i>FIGURE 6 MARKET SHARE BY USAGE VOLUME, BY CHEMICAL ADDITIVE 2014 (%)</i>	44
<i>FIGURE 7 FRACKING FLUIDS MARKET SHARE BY REVENUES, 2014 (%)</i>	46
CARRIER FLUIDS	47
<i>TABLE 15 CARRIER FLUIDS MARKET SHARE BY PRODUCTS, 2014 (%)</i>	48
<i>FIGURE 8 CARRIER FLUIDS MARKET SHARE BY PRODUCTS, 2014 (%)</i>	48
<i>TABLE 16 CARRIER FLUID MARKET-GLOBAL TRR USAGE VALUES, 2013 (BILLION POUNDS)</i>	49
<i>TABLE 17 CARRIER FLUID MARKET- GLOBAL TRR VALUE, 2013 (\$ BILLION)</i>	50
PROPPANTS	51
<i>TABLE 18 PROPPANTS MARKET SHARE BY PRODUCT TYPE, 2013 (%)</i>	52
<i>FIGURE 9 PROPPANTS MARKET SHARE BY PRODUCT TYPE, 2013 (%)</i>	53
<i>TABLE 19 PROPPANT MARKET-GLOBAL TRR USAGE VOLUME BY REGION, 2013 (BILLION POUNDS)</i>	54
<i>TABLE 20 PROPPANT MARKET- GLOBAL TRR REVENUE, BY REGION 2013 (\$ BILLION)</i>	55
CHEMICAL ADDITIVES	55
Gelling Agents	55
<i>TABLE 21 GELLING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	56
<i>FIGURE 10 GELLING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	56
<i>TABLE 22 GELLING AGENTS MARKET- GLOBAL TRR VOLUME, BY REGION, 2013 (BILLION POUNDS)</i>	57
<i>TABLE 23 GELLING AGENTS MARKET-GLOBAL TRR REVENUE, BY REGION, 2013 (\$ BILLION)</i>	58
Iron Control Agents	59
<i>TABLE 24 IRON CONTROL AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	59
<i>FIGURE 11 IRON CONTROL AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	60
<i>TABLE 25 IRON CONTROL MARKET USAGE VOLUME-GLOBAL TRR, 2013 (BILLION POUNDS)</i>	60
<i>TABLE 26 IRON CONTROL MARKET REVENUE- GLOBAL TRR, 2013 (BILLION \$)</i>	61
Breaker Fluids	62
<i>TABLE 27 BREAKER FLUIDS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	63
<i>FIGURE 12 BREAKER FLUIDS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	63
<i>TABLE 28 BREAKER FLUIDS MARKET VOLUME USAGE-GLOBAL TRR, 2013 (BILLION POUNDS)</i>	64
<i>TABLE 29 BREAKER FLUIDS MARKET REVENUES-GLOBAL TRR, 2013 (\$ BILLION)</i>	64
Corrosion Inhibitors	65
<i>TABLE 30 CORROSION INHIBITORS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	66
<i>FIGURE 13 CORROSION INHIBITORS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	66
<i>TABLE 31 CORROSION INHIBITORS MARKET-GLOBAL TRR, 2013 (BILLION POUNDS)</i>	67
<i>TABLE 32 CORROSION INHIBITORS REVENUE MARKET-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)</i>	67
pH Adjusters	68

TOPIC	PAGE NO.
<i>TABLE 33 PH ADJUSTERS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	69
<i>FIGURE 14 PH ADJUSTERS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	69
<i>TABLE 34 PH ADJUSTERS MARKET USAGE VOLUME-GLOBAL TRR, 2013 (BILLION POUNDS)</i>	70
<i>TABLE 35 PH ADJUSTERS MARKET-GLOBAL TRR, 2013 (\$ BILLION)</i>	70
Biocides	71
<i>TABLE 36 BIOCIDES MARKET SHARE BY PRODUCTS, 2013 (%)</i>	72
<i>FIGURE 15 BIOCIDES MARKET SHARE BY PRODUCTS, 2013 (%)</i>	72
<i>TABLE 37 BIOCIDES MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)</i>	73
<i>TABLE 38 BIOCIDES MARKET VALUE-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)</i>	73
Friction Reducers	74
<i>TABLE 39 FRICTION REDUCERS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	74
<i>FIGURE 16 FRICTION REDUCERS MARKET SHARE BY PRODUCTS, 2013 (USAGE VOLUME %)</i>	75
<i>TABLE 40 FRICTION REDUCERS MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)</i>	75
<i>TABLE 41 FRICTION REDUCERS MARKET VALUE- GLOBAL TRR, BY REGION, 2013 (\$ BILLION)</i>	76
Surfactants	76
<i>TABLE 42 SURFACTANTS MARKET SHARE BY PRODUCTS, 2013 (USAGE VOLUME %)</i>	77
<i>FIGURE 17 SURFACTANTS MARKET SHARE BY PRODUCTS, 2013 (USAGE VOLUME %)</i>	78
<i>TABLE 43 SURFACTANTS MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)</i>	78
<i>TABLE 44 SURFACTANTS MARKET VALUE-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)</i>	79
Crosslinking Agents	79
<i>TABLE 45 CROSSLINKING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	80
<i>FIGURE 18 CROSSLINKING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	81
<i>TABLE 46 CROSSLINKING AGENTS MARKET VOLUME-GLOBAL TRR, BY REGION 2013 (BILLION POUNDS)</i>	81
<i>TABLE 47 CROSSLINKING AGENTS MARKET VALUE-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)</i>	82
Acids	82
<i>TABLE 48 ACIDS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	83
<i>FIGURE 19 ACIDS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	84
<i>TABLE 49 ACIDS MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)</i>	84
<i>TABLE 50 ACIDS MARKET -GLOBAL TRR, 2013 (\$ BILLION)</i>	85
Solvents	85
<i>FIGURE 20 SOLVENTS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	86
<i>TABLE 52 SOLVENTS MARKET, VOLUME -GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)</i>	86
<i>TABLE 53 SOLVENTS MARKET VALUE- GLOBAL TRR, BY REGION, 2013 (\$ BILLION)</i>	87
Scale Inhibitors	87
<i>TABLE 54 SCALE INHIBITORS MARKET SHARE, BY PRODUCTS, 2013 (%)</i>	88
<i>FIGURE 21 SCALE INHIBITORS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	89
<i>TABLE 55 SCALE INHIBITORS MARKET - GLOBAL TRR, 2013 (BILLION POUNDS)</i>	89
<i>TABLE 56 SCALE INHIBITORS MARKET-GLOBAL TRR, 2013 (\$ BILLION)</i>	90
Clay Stabilizers	91

TOPIC	PAGE NO.
<i>TABLE 57 CLAY STABILIZERS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	91
<i>FIGURE 22 CLAY STABILIZERS MARKET SHARE BY PRODUCTS, 2013 (%)</i>	92
<i>TABLE 58 CLAY STABILIZERS MARKET - GLOBAL TRR, 2013 (BILLION POUNDS)</i>	92
<i>TABLE 59 CLAY STABILIZERS MARKET - GLOBAL TRR, 2013 (\$ BILLION)</i>	93
CHAPTER 5 INDUSTRY STRUCTURE AND TRENDS	95
INDUSTRY DIAGRAM	95
<i>FIGURE 23 FRACKING FLUID INDUSTRY STRUCTURE</i>	95
OIL AND GAS EXPLORATION AND PRODUCTION COMPANIES	95
Energy Services Firms	96
Chemical Companies	96
Wastewater Treatment Firms	96
INDUSTRY VALUE CHAIN	97
Extraction	97
<i>FIGURE 24 HYDRAULIC FRACTURING PROCESS VALUE CHAIN</i>	97
Processing with Fracking Fluid	98
Waste Disposal of Spent Fracking Fluid (Flowback)	98
Fracking Fluid Recycling	98
INDUSTRY DRIVING FORCES	98
GLOBAL MACROECONOMIC GROWTH DRIVERS	99
Global Oil and Gas Consumption and Prices	99
U.S. Liquid Fuels Imports	99
Wastewater Treatment Disposal, Reuse, Recycling	100
<i>FIGURE 25 FRACKING FLUID DISPOSAL, 2013 (% OF TREATMENT)</i>	100
MARKET GROWTH DRIVERS	101
Extended Horizontal Length	101
Multi-well Drilling Pads	102
Walking Drilling Rigs	102
Formation Specific Drilling Bits	102
INDUSTRY COMPETITIVE STRATEGIES	102
ANALYTICS FOR PRODUCTION PROFILE MANAGEMENT	102
CHEMICAL TRANSPORTATION AND RECYCLING	103
REGULATORY ENVIRONMENT	103
BARRIERS TO ENTRY	103
IMPORTANT SHIFTS IN THE INDUSTRY	104
GLOBAL FOCUS ON U.S. SHALE COMPANIES	104
IMPACT ON OTHER INDUSTRIES	104
DISTRIBUTION CHANNELS	104
INDUSTRY TRENDS	105
ENERGY DEMAND	105
ENVIRONMENTAL CONCERNS	105
<i>TABLE 60 NATURAL GAS DRILLING AND HYDRAULIC FRACTURING CHEMICALS WITH 10 OR MORE HEALTH EFFECTS</i>	106
GOVERNMENT REGULATIONS	107
RECYCLING AND REUSE	107
TYPES OF FORMATIONS	107
COUNTRY-BASED FRACKING FLUID OPPORTUNITY	107

TOPIC	PAGE NO.
<i>TABLE 61 TOP COUNTRIES FOR FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES, 2013 (TCF, BBO, BILLION POUNDS)</i>	108
<i>FIGURE 26 TRR BASED TOTAL FRACKING FLUID USAGE VOLUME BY COUNTRY (BILLION POUNDS)</i>	109
FRACKING FLUID OPPORTUNITY BY ENERGY TYPE	110
<i>FIGURE 27 TOTAL FRACKING FLUIDS USAGE GLOBALLY BY ENERGY TYPE, 2013 (%)</i>	110
FRACKING FLUIDS GENERATED FROM GAS RESERVOIRS	111
<i>TABLE 62 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (BILLION POUNDS)</i>	111
<i>TABLE 63 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (BILLION POUNDS)</i>	112
<i>FIGURE 28 TOTAL GLOBAL FRACKING FLUIDS FOR GAS RESERVOIRS, 2013 (BILLION POUNDS)</i>	113
<i>TABLE 64 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (\$ BILLION)</i>	113
<i>TABLE 65 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (\$ BILLION)</i>	114
<i>FIGURE 29 TOTAL GLOBAL FRACKING FLUID REVENUE SHARES FOR GAS RESERVOIRS, 2013 (%)</i>	114
<i>FIGURE 30 TOTAL GLOBAL FRACKING FLUID REVENUE SHARES FOR GAS RESERVOIRS BY CHEMICAL ADDITIVE TYPE, 2013 (%)</i>	115
FRACKING FLUIDS GENERATED FROM OIL RESERVOIRS	116
<i>TABLE 66 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (BILLION POUNDS)</i>	117
<i>TABLE 67 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (BILLION POUNDS)</i>	117
<i>TABLE 68 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (\$ BILLION)</i>	118
<i>TABLE 69 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (\$ BILLION)</i>	119
<i>FIGURE 31 TOTAL GLOBAL FRACKING FLUID REVENUE SHARE FOR OIL RESERVOIRS, 2013 (%)</i>	119
<i>FIGURE 32 TOTAL GLOBAL CHEMICAL ADDITIVES REVENUE SHARE FOR OIL RESERVOIRS, 2013 (%)</i>	120
CHAPTER 6 FRACKING FLUIDS BY REGIONAL SHALE MARKET APPLICATION	123
FRACKING FLUID OPPORTUNITY BY REGIONAL TRR	123
<i>TABLE 70 GLOBAL FRACKING FLUID VOLUME AND REVENUES BASED ON TRR BY REGION, 2013 (BILLION POUNDS/\$ BILLIONS)</i>	124
<i>FIGURE 33 GLOBAL FRACKING FLUID VOLUME SHARES BASED ON TRR BY REGION, 2013 (%)</i>	124
AFRICA/MIDDLE EAST REGION	125
<i>TABLE 71 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE AFRICA/MIDDLE EAST REGION, 2013</i>	125
<i>FIGURE 34 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE AFRICA/MIDDLE EAST REGION, 2013 (%)</i>	126
Fracking Fluids for Gas Reservoirs in the Africa/Middle East Region	127
<i>TABLE 72 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (BILLION POUNDS)</i>	127
<i>TABLE 73 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (\$ BILLION)</i>	128

TOPIC	PAGE NO.
Fracking Fluids for Oil Reservoirs in the Africa/Middle East Region	128
<i>TABLE 74 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (BILLION POUNDS)</i>	129
<i>TABLE 75 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (\$ BILLION)</i>	129
ASIA-PACIFIC REGION	130
<i>TABLE 76 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE ASIA-PACIFIC REGION, 2013</i>	130
<i>FIGURE 35 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE ASIA-PACIFIC EAST REGION, 2013 (%)</i>	131
<i>TABLE 77 FRACKING FLUIDS FOR TRR IN THE ASIA-PACIFIC REGION, 2013 (BILLION POUNDS)</i>	132
<i>FIGURE 36 TOTAL FRACKING FLUIDS WORLD USAGE BASED ON TRR IN THE ASIA-PACIFIC REGION BY ENERGY TYPE, 2013 (%)</i>	132
<i>TABLE 78 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE ASIA-PACIFIC REGION, 2013 (\$ BILLION)</i>	133
Fracking Fluids for Oil Reservoirs in the Asia-Pacific Region	134
EUROPE REGION	134
<i>TABLE 79 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE EUROPE REGION, 2013</i>	134
<i>FIGURE 37 TOTAL FRACKING FLUIDS WORLD USAGE BASED ON TRR IN THE EUROPE REGION BY ENERGY TYPE, 2013 (%)</i>	135
<i>TABLE 80 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE EUROPE REGION, 2013 (BILLION POUNDS)</i>	136
<i>TABLE 81 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE EUROPE REGION, 2013 (\$ BILLION)</i>	137
NORTH AMERICA REGION	137
<i>TABLE 82 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE NORTH AMERICA REGION, 2013</i>	138
Shales in the North America Region	138
<i>FIGURE 38 TOTAL FRACKING FLUIDS WORLD USAGE BASED ON TRR IN THE NORTH AMERICAN REGION BY ENERGY TYPE, 2013 (%)</i>	138
<i>TABLE 83 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE NORTH AMERICA REGION, 2013 (BILLION POUNDS)</i>	139
<i>TABLE 84 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE NORTH AMERICA REGION, 2013 (\$ BILLION)</i>	140
SOUTH AMERICA REGION	140
<i>FIGURE 39 TOTAL FRACKING FLUIDS USAGE BASED ON TRR IN THE SOUTH AMERICAN REGION BY ENERGY TYPE, 2013 (%)</i>	140
<i>TABLE 85 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE SOUTH AMERICA REGION, 2013</i>	141
<i>TABLE 86 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE SOUTH AMERICA REGION, 2013 (BILLION POUNDS)</i>	142
<i>TABLE 87 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE SOUTH AMERICA REGION, 2013 (\$ BILLION)</i>	142
FRACKING FLUID BY REGIONAL USAGE AND REVENUES, 2013 TO 2019	143
Total Fracking Fluids Usage Volume by Regional Production	143
<i>TABLE 88 GLOBAL USAGE OF TOTAL FRACKING FLUIDS BY REGION, THROUGH 2019 (BILLION POUNDS)</i>	143
<i>FIGURE 40 GLOBAL USAGE OF TOTAL FRACKING FLUIDS BY REGION, 2013 TO 2019 (MILLION POUNDS)</i>	143

TOPIC	PAGE NO.
<i>FIGURE 41 GLOBAL USAGE VOLUME OF TOTAL FRACKING FLUIDS BY REGION, 2013 AND 2019 (%)</i>	144
<i>FIGURE 42 GLOBAL USAGE VOLUME OF TOTAL FRACKING FLUIDS BY REGION, 2019 (%)</i>	144
Total Fracking Fluids Revenues by Regional Production	145
<i>TABLE 89 GLOBAL REVENUES OF TOTAL FRACKING FLUIDS BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	145
<i>FIGURE 43 GLOBAL REVENUES OF TOTAL FRACKING FLUIDS BY REGION, 2013-2019 (\$ MILLIONS)</i>	146
Carrier Fluids Usage Volume by Regional Production	146
<i>TABLE 90 GLOBAL USAGE OF CARRIER FLUIDS BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	147
<i>FIGURE 44 GLOBAL USAGE VOLUME OF CARRIER FLUID BY REGION, 2013 AND 2019 (%)</i>	147
Carrier Fluids Revenues by Regional Production	148
<i>TABLE 91 GLOBAL REVENUES OF CARRIER FLUIDS BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	148
<i>FIGURE 45 GLOBAL REVENUES OF CARRIER FLUID BY REGION, 2013-2019 (\$ MILLIONS)</i>	149
Proppants Usage Volume by Regional Production	149
<i>TABLE 92 GLOBAL USAGE OF PROPPANTS BY REGION, THROUGH 2019 (BILLION POUNDS)</i>	150
<i>FIGURE 46 GLOBAL VOLUME USAGE SHARE OF PROPPANTS BY REGION, 2013 AND 2019 (%)</i>	150
Proppants Revenues by Regional Production	152
<i>TABLE 93 GLOBAL REVENUES OF PROPPANTS BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	152
<i>FIGURE 47 GLOBAL REVENUES OF PROPPANTS BY REGION, 2013-2019 (\$ MILLIONS)</i>	152
Chemical Additives Usage Volume by Regional Production	153
<i>TABLE 94 GLOBAL USAGE OF COMBINED CHEMICAL COMPOUNDS BY REGION, THROUGH 2019 (BILLION POUNDS)</i>	154
<i>FIGURE 48 GLOBAL VOLUME USAGE SHARE OF TOTAL CHEMICAL ADDITIVES BY REGION 2013-2019 (%)</i>	154
Chemical Additives Revenues by Regional Production	155
<i>TABLE 95 GLOBAL REVENUES OF COMBINED CHEMICAL COMPOUNDS BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	156
<i>FIGURE 49 GLOBAL REVENUES OF CHEMICAL ADDITIVES BY REGION, 2013-2019 (\$ MILLIONS)</i>	156
Gelling Agents Usage Volume by Regional Production	157
<i>TABLE 96 GLOBAL USAGE OF GELLING AGENTS BY REGION, THROUGH 2019 (BILLION POUNDS)</i>	157
Gelling Agents Revenues by Regional Production	158
<i>TABLE 97 GLOBAL REVENUES OF GELLING AGENTS BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	158
Iron Control Usage Volume by Regional Production	158
<i>TABLE 98 GLOBAL USAGE OF IRON CONTROL BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	159
Iron Control Agents Revenues by Regional Production	159
<i>TABLE 99 GLOBAL REVENUES OF IRON CONTROL BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	160
Breaker Fluids Usage Volume by Regional Production	160

TOPIC	PAGE NO.
<i>TABLE 100 GLOBAL USAGE OF BREAKER FLUIDS BY REGION, THROUGH 2019 (BILLION POUNDS)</i>	161
Breaker Fluids Revenues by Regional Production	161
<i>TABLE 101 GLOBAL REVENUES OF BREAKER FLUIDS BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	161
Corrosion Inhibitors Usage Volume by Regional Production	162
<i>TABLE 102 GLOBAL USAGE OF CORROSION INHIBITOR BY REGION, THROUGH 2019 (BILLION POUNDS)</i>	162
Corrosion Inhibitors Revenues by Regional Production	162
<i>TABLE 103 GLOBAL REVENUES OF CORROSION INHIBITOR BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	163
pH Adjusters Usage Volume By Regional Production	163
<i>TABLE 104 GLOBAL USAGE OF PH ADJUSTER BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	163
pH Adjusters Revenues by Regional Production	164
<i>TABLE 105 GLOBAL REVENUES OF PH ADJUSTER BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	164
Biocides Usage Volume by Regional Production	164
<i>TABLE 106 GLOBAL USAGE OF BIOCIDES BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	165
Biocides Revenues by Regional Production	165
<i>TABLE 107 GLOBAL REVENUES OF BIOCIDES BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	166
Friction Reducers Usage Volume by Regional Production	166
<i>TABLE 108 GLOBAL USAGE OF FRICTION REDUCER BY REGION, THROUGH 2019 (BILLION POUNDS)</i>	167
Friction Reducers Revenues by Regional Production	167
<i>TABLE 109 GLOBAL REVENUES OF FRICTION REDUCER BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	167
Surfactants Usage Volume by Regional Production	168
<i>TABLE 110 GLOBAL USAGE OF SURFACTANT BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	168
Surfactant Revenues by Regional Production	169
<i>TABLE 111 GLOBAL REVENUES OF SURFACTANT BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	169
Crosslinking Agents Usage Volume by Regional Production	169
<i>TABLE 112 GLOBAL USAGE OF CROSSLINKER BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	170
Crosslinking Agents Revenues by Regional Production	170
<i>TABLE 113 GLOBAL REVENUES OF CROSSLINKER BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	170
Acids Usage Volume by Regional Production	171
<i>TABLE 114 GLOBAL USAGE OF ACID BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	171
Acids Revenues by Regional Production	172
<i>TABLE 115 GLOBAL REVENUES OF ACID BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	172
Solvents Usage Volume by Regional Production	172
<i>TABLE 116 GLOBAL USAGE OF SOLVENT BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	173
Solvents Revenues by Regional Production	173

TOPIC	PAGE NO.
<i>TABLE 117 GLOBAL REVENUES OF SOLVENT BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	173
Scale Inhibitors Usage Volume by Regional Production	174
<i>TABLE 118 GLOBAL USAGE OF SCALE INHIBITOR BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	174
Scale Inhibitors Revenues by Regional Production	174
<i>TABLE 119 GLOBAL REVENUES OF SCALE INHIBITOR BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	175
Clay Stabilizers Usage Volume by Regional Production	175
<i>TABLE 120 GLOBAL USAGE OF CLAY STABILIZER/CONTROLLER BY REGION, THROUGH 2019 (MILLION POUNDS)</i>	176
Clay Stabilizers Revenues by Regional Production	176
<i>TABLE 121 GLOBAL REVENUES OF CLAY STABILIZER/CONTROLLER BY REGION, THROUGH 2019 (\$ MILLIONS)</i>	176
FRACKING FLUID BY IN-COUNTRY USAGE AND REVENUES PER REGION, 2013 TO 2019	177
Africa/Middle East Region	177
<i>TABLE 122 USAGE OF TOTAL FRACKING FLUIDS IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	177
<i>TABLE 123 REVENUES OF TOTAL FRACKING FLUIDS IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	177
<i>TABLE 124 USAGE OF CARRIER FLUID IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	178
<i>TABLE 125 REVENUES OF CARRIER FLUID IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	178
<i>TABLE 126 USAGE OF PROPPANT IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	178
<i>TABLE 127 REVENUES OF PROPPANT IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	179
<i>TABLE 128 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	180
<i>TABLE 129 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	180
Asia-Pacific Region	181
<i>TABLE 130 USAGE OF TOTAL FRACKING FLUIDS IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	181
<i>TABLE 131 REVENUES OF TOTAL FRACKING FLUIDS IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	181
<i>TABLE 132 USAGE OF CARRIER FLUID IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	181
<i>TABLE 133 REVENUES OF CARRIER FLUID IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	182
<i>TABLE 134 USAGE OF PROPPANT IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	182
<i>TABLE 135 REVENUES OF PROPPANT IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	183
<i>TABLE 136 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	183
<i>TABLE 137 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	183
Europe Region	184

TOPIC	PAGE NO.
<i>TABLE 138 USAGE OF EUROPE REGION FRACKING FLUIDS, THROUGH 2019 (MILLION POUNDS)</i>	184
<i>TABLE 139 REVENUES OF EUROPE REGION FRACKING FLUIDS, THROUGH 2019 (\$ MILLIONS)</i>	184
North America Region	185
<i>TABLE 140 USAGE OF TOTAL FRACKING FLUIDS IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	185
<i>TABLE 141 REVENUES OF TOTAL FRACKING FLUIDS IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	185
<i>TABLE 142 USAGE OF CARRIER FLUID IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	185
<i>TABLE 143 REVENUES OF CARRIER FLUID IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	186
<i>TABLE 144 USAGE OF PROPPANT IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	186
<i>TABLE 145 REVENUES OF PROPPANT IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	187
<i>TABLE 146 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	187
<i>TABLE 147 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	187
South America Region	188
<i>TABLE 148 USAGE OF TOTAL FRACKING FLUIDS IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	188
<i>TABLE 149 REVENUES OF TOTAL FRACKING FLUIDS IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	188
<i>TABLE 150 USAGE OF CARRIER FLUID IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	188
<i>TABLE 151 REVENUES OF CARRIER FLUID IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	188
<i>TABLE 152 USAGE OF PROPPANT IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	189
<i>TABLE 153 REVENUES OF PROPPANT IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	189
<i>TABLE 154 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)</i>	189
<i>TABLE 155 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)</i>	190
CHAPTER 7 COMPANY PROFILES	192
ADVANCED RESOURCES INTERNATIONAL	192
APACHE	193
BADGER MINING	193
BNK PETROLEUM	193
BURU ENERGY	194
CANACOL	194
CARBO	194
CENTRICA	195
CHART INDUSTRIES INC.	195
CHESAPEAKE ENERGY CORP.	195
CMP TIANJIN	196

TOPIC	PAGE NO.
COMSTOCK RESOURCES	196
CUADRILLA RESOURCES COMPANY	196
DEVON ENERGY CORP.	197
ELIXIR PETROLEUM	197
ENERGIGAS	197
EOG RESOURCES	197
FAIRMOUNT	198
FALCON OIL & GAS	198
FOUNTAIN QUAIL WATER	198
GRIPEN GAS	199
MOL	199
NEXEN	199
PEMEX	199
PETREL ENERGY	200
PETROCHINA	200
PETROFRONTIER CORP.	200
PIONEER NATURAL RESOURCES	201
POLISH OIL & GAS COMPANY	201
SAINT-GOBAIN (CERAMIC)	201
SAN LEON ENERGY PLC	201
SCHEUPBACH ENERGY	202
SEEPEX	202
SINOPEC CANADA	202
UNIMIN CORP.	203
US SILICA	203
WEIR OIL & GAS	203

LIST OF TABLES

TABLE HEADING	PAGE NO.
SUMMARY TABLE GLOBAL MARKET FOR FRACKING FLUIDS REVENUES, THROUGH 2019 (\$ MILLIONS)	8
TABLE 1 TOTAL FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES FOR SHALE GAS, TIGHT OIL AND COAL BED METHANE, 2013 (TCF = TRILLION CUBIC FEET)	13
TABLE 2 TOTAL USAGE FRACKING FLUIDS BASED ON TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE, 2013 (BILLION POUNDS)	15
TABLE 3 CHEMICAL ADDITIVE USAGE BASED ON TOTAL TRR FOR OIL AND GAS IN REGIONAL MARKET, 2013 (BILLION POUNDS)	16
TABLE 4 CHEMICAL ADDITIVE USAGE BASED ON TOTAL TRR FOR OIL AND GAS IN REGIONAL MARKET, 2013 (BILLION POUNDS)	16
TABLE 5 TOTAL FRACKING FLUID MARKET BASED ON TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE BY REGION, 2013 (\$ BILLION)	17
TABLE 6 TOTAL MARKET FOR CHEMICAL ADDITIVES BASED ON TRR FOR OIL AND GAS BY REGION, 2013 (\$ BILLION)	18
TABLE 7 TOTAL MARKET FOR CHEMICAL ADDITIVES BASED ON TRR FOR OIL AND GAS BY REGION, 2013 (\$ BILLION)	19
TABLE 8 TOTAL GLOBAL USAGE OF FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (BILLION POUNDS)	25
TABLE 9 TOTAL GLOBAL USAGE OF CHEMICAL ADDITIVES BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (BILLION POUNDS)	26
TABLE 10 GLOBAL MARKET FOR FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (\$ BILLION)	26
TABLE 11 GLOBAL MARKET FOR CHEMICAL ADDITIVES BASED ON TECHNICALLY RECOVERABLE RESOURCES BY ENERGY TYPE, 2013 (\$ BILLION)	27
TABLE 12 SUMMARY OF FRACKING FLUID SYSTEMS (% OF FRACTURING TREATMENTS)	35
TABLE 13 LIST OF CONVENTIONAL FRACKING FLUIDS (AVG. MASS %)	37
TABLE 14 FRACKING FLUIDS - MARKET SHARE BY USAGE VOLUME AND REVENUES, 2014 (%)	43
TABLE 15 CARRIER FLUIDS MARKET SHARE BY PRODUCTS, 2014 (%)	48
TABLE 16 CARRIER FLUID MARKET-GLOBAL TRR USAGE VALUES, 2013 (BILLION POUNDS)	49
TABLE 17 CARRIER FLUID MARKET- GLOBAL TRR VALUE, 2013 (\$ BILLION)	50
TABLE 18 PROPPANTS MARKET SHARE BY PRODUCT TYPE, 2013 (%)	52
TABLE 19 PROPPANT MARKET-GLOBAL TRR USAGE VOLUME BY REGION, 2013 (BILLION POUNDS)	54
TABLE 20 PROPPANT MARKET- GLOBAL TRR REVENUE, BY REGION 2013 (\$ BILLION)	55
TABLE 21 GELLING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)	56
TABLE 22 GELLING AGENTS MARKET- GLOBAL TRR VOLUME, BY REGION, 2013 (BILLION POUNDS)	57
TABLE 23 GELLING AGENTS MARKET-GLOBAL TRR REVENUE, BY REGION, 2013 (\$ BILLION)	58
TABLE 24 IRON CONTROL AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)	59
TABLE 25 IRON CONTROL MARKET USAGE VOLUME-GLOBAL TRR, 2013 (BILLION POUNDS)	60
TABLE 26 IRON CONTROL MARKET REVENUE- GLOBAL TRR, 2013 (BILLION \$)	61
TABLE 27 BREAKER FLUIDS MARKET SHARE BY PRODUCTS, 2013 (%)	63
TABLE 28 BREAKER FLUIDS MARKET VOLUME USAGE-GLOBAL TRR, 2013 (BILLION POUNDS)	64

TABLE HEADING	PAGE NO.
TABLE 29 BREAKER FLUIDS MARKET REVENUES-GLOBAL TRR, 2013 (\$ BILLION)	64
TABLE 30 CORROSION INHIBITORS MARKET SHARE BY PRODUCTS, 2013 (%)	66
TABLE 31 CORROSION INHIBITORS MARKET-GLOBAL TRR, 2013 (BILLION POUNDS)	67
TABLE 32 CORROSION INHIBITORS REVENUE MARKET-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)	67
TABLE 33 PH ADJUSTERS MARKET SHARE BY PRODUCTS, 2013 (%)	69
TABLE 34 PH ADJUSTERS MARKET USAGE VOLUME-GLOBAL TRR, 2013 (BILLION POUNDS)	70
TABLE 35 PH ADJUSTERS MARKET-GLOBAL TRR, 2013 (\$ BILLION)	70
TABLE 36 BIOCIDES MARKET SHARE BY PRODUCTS, 2013 (%)	72
TABLE 37 BIOCIDES MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)	73
TABLE 38 BIOCIDES MARKET VALUE-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)	73
TABLE 39 FRICTION REDUCERS MARKET SHARE BY PRODUCTS, 2013 (%)	74
TABLE 40 FRICTION REDUCERS MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)	75
TABLE 41 FRICTION REDUCERS MARKET VALUE- GLOBAL TRR, BY REGION, 2013 (\$ BILLION)	76
TABLE 42 SURFACTANTS MARKET SHARE BY PRODUCTS, 2013 (USAGE VOLUME %)	77
TABLE 43 SURFACTANTS MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)	78
TABLE 44 SURFACTANTS MARKET VALUE-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)	79
TABLE 45 CROSSLINKING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)	80
TABLE 46 CROSSLINKING AGENTS MARKET VOLUME-GLOBAL TRR, BY REGION 2013 (BILLION POUNDS)	81
TABLE 47 CROSSLINKING AGENTS MARKET VALUE-GLOBAL TRR, BY REGION, 2013 (\$ BILLION)	82
TABLE 48 ACIDS MARKET SHARE BY PRODUCTS, 2013 (%)	83
TABLE 49 ACIDS MARKET VOLUME-GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)	84
TABLE 50 ACIDS MARKET -GLOBAL TRR, 2013 (\$ BILLION)	85
TABLE 52 SOLVENTS MARKET, VOLUME -GLOBAL TRR, BY REGION, 2013 (BILLION POUNDS)	86
TABLE 53 SOLVENTS MARKET VALUE- GLOBAL TRR, BY REGION, 2013 (\$ BILLION)	87
TABLE 54 SCALE INHIBITORS MARKET SHARE, BY PRODUCTS, 2013 (%)	88
TABLE 55 SCALE INHIBITORS MARKET - GLOBAL TRR, 2013 (BILLION POUNDS)	89
TABLE 56 SCALE INHIBITORS MARKET-GLOBAL TRR, 2013 (\$ BILLION)	90
TABLE 57 CLAY STABILIZERS MARKET SHARE BY PRODUCTS, 2013 (%)	91
TABLE 58 CLAY STABILIZERS MARKET - GLOBAL TRR, 2013 (BILLION POUNDS)	92
TABLE 59 CLAY STABILIZERS MARKET - GLOBAL TRR, 2013 (\$ BILLION)	93
TABLE 60 NATURAL GAS DRILLING AND HYDRAULIC FRACTURING CHEMICALS WITH 10 OR MORE HEALTH EFFECTS	106
TABLE 61 TOP COUNTRIES FOR FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES, 2013 (TCF, BBO, BILLION POUNDS)	108
TABLE 62 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (BILLION POUNDS)	111
TABLE 63 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (BILLION POUNDS)	112
TABLE 64 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (\$ BILLION)	113

TABLE HEADING	PAGE NO.
TABLE 65 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS, 2013 (\$ BILLION)	114
TABLE 66 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (BILLION POUNDS)	117
TABLE 67 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (BILLION POUNDS)	117
TABLE 68 TOTAL GLOBAL FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (\$ BILLION)	118
TABLE 69 GLOBAL CHEMICAL ADDITIVES FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS, 2013 (\$ BILLION)	119
TABLE 70 GLOBAL FRACKING FLUID VOLUME AND REVENUES BASED ON TRR BY REGION, 2013 (BILLION POUNDS/\$ BILLIONS)	124
TABLE 71 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE AFRICA/MIDDLE EAST REGION, 2013	125
TABLE 72 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (BILLION POUNDS)	127
TABLE 73 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE GAS RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (\$ BILLION)	128
TABLE 74 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (BILLION POUNDS)	129
TABLE 75 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE OIL RESERVOIRS IN THE AFRICA/MIDDLE EAST REGION, 2013 (\$ BILLION)	129
TABLE 76 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE ASIA-PACIFIC REGION, 2013	130
TABLE 77 FRACKING FLUIDS FOR TRR IN THE ASIA-PACIFIC REGION, 2013 (BILLION POUNDS)	132
TABLE 78 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE ASIA-PACIFIC REGION, 2013 (\$ BILLION)	133
TABLE 79 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE EUROPE REGION, 2013	134
TABLE 80 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE EUROPE REGION, 2013 (BILLION POUNDS)	136
TABLE 81 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE EUROPE REGION, 2013 (\$ BILLION)	137
TABLE 82 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE NORTH AMERICA REGION, 2013	138
TABLE 83 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE NORTH AMERICA REGION, 2013 (BILLION POUNDS)	139
TABLE 84 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE NORTH AMERICA REGION, 2013 (\$ BILLION)	140
TABLE 85 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE SOUTH AMERICA REGION, 2013	141
TABLE 86 FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE SOUTH AMERICA REGION, 2013 (BILLION POUNDS)	142
TABLE 87 REVENUES OF FRACKING FLUIDS FOR TECHNICALLY RECOVERABLE RESERVOIRS IN THE SOUTH AMERICA REGION, 2013 (\$ BILLION)	142
TABLE 88 GLOBAL USAGE OF TOTAL FRACKING FLUIDS BY REGION, THROUGH 2019 (BILLION POUNDS)	143
TABLE 89 GLOBAL REVENUES OF TOTAL FRACKING FLUIDS BY REGION, THROUGH 2019 (\$ MILLIONS)	145
TABLE 90 GLOBAL USAGE OF CARRIER FLUIDS BY REGION, THROUGH 2019 (MILLION POUNDS)	147

TABLE HEADING	PAGE NO.
TABLE 91 GLOBAL REVENUES OF CARRIER FLUIDS BY REGION, THROUGH 2019 (\$ MILLIONS)	148
TABLE 92 GLOBAL USAGE OF PROPPANTS BY REGION, THROUGH 2019 (BILLION POUNDS)	150
TABLE 93 GLOBAL REVENUES OF PROPPANTS BY REGION, THROUGH 2019 (\$ MILLIONS)	152
TABLE 94 GLOBAL USAGE OF COMBINED CHEMICAL COMPOUNDS BY REGION, THROUGH 2019 (BILLION POUNDS)	154
TABLE 95 GLOBAL REVENUES OF COMBINED CHEMICAL COMPOUNDS BY REGION, THROUGH 2019 (\$ MILLIONS)	156
TABLE 96 GLOBAL USAGE OF GELLING AGENTS BY REGION, THROUGH 2019 (BILLION POUNDS)	157
TABLE 97 GLOBAL REVENUES OF GELLING AGENTS BY REGION, THROUGH 2019 (\$ MILLIONS)	158
TABLE 98 GLOBAL USAGE OF IRON CONTROL BY REGION, THROUGH 2019 (MILLION POUNDS)	159
TABLE 99 GLOBAL REVENUES OF IRON CONTROL BY REGION, THROUGH 2019 (\$ MILLIONS)	160
TABLE 100 GLOBAL USAGE OF BREAKER FLUIDS BY REGION, THROUGH 2019 (BILLION POUNDS)	161
TABLE 101 GLOBAL REVENUES OF BREAKER FLUIDS BY REGION, THROUGH 2019 (\$ MILLIONS)	161
TABLE 102 GLOBAL USAGE OF CORROSION INHIBITOR BY REGION, THROUGH 2019 (BILLION POUNDS)	162
TABLE 103 GLOBAL REVENUES OF CORROSION INHIBITOR BY REGION, THROUGH 2019 (\$ MILLIONS)	163
TABLE 104 GLOBAL USAGE OF PH ADJUSTER BY REGION, THROUGH 2019 (MILLION POUNDS)	163
TABLE 105 GLOBAL REVENUES OF PH ADJUSTER BY REGION, THROUGH 2019 (\$ MILLIONS)	164
TABLE 106 GLOBAL USAGE OF BIOCIDES BY REGION, THROUGH 2019 (MILLION POUNDS)	165
TABLE 107 GLOBAL REVENUES OF BIOCIDES BY REGION, THROUGH 2019 (\$ MILLIONS)	166
TABLE 108 GLOBAL USAGE OF FRICTION REDUCER BY REGION, THROUGH 2019 (BILLION POUNDS)	167
TABLE 109 GLOBAL REVENUES OF FRICTION REDUCER BY REGION, THROUGH 2019 (\$ MILLIONS)	167
TABLE 110 GLOBAL USAGE OF SURFACTANT BY REGION, THROUGH 2019 (MILLION POUNDS)	168
TABLE 111 GLOBAL REVENUES OF SURFACTANT BY REGION, THROUGH 2019 (\$ MILLIONS)	169
TABLE 112 GLOBAL USAGE OF CROSSLINKER BY REGION, THROUGH 2019 (MILLION POUNDS)	170
TABLE 113 GLOBAL REVENUES OF CROSSLINKER BY REGION, THROUGH 2019 (\$ MILLIONS)	170
TABLE 114 GLOBAL USAGE OF ACID BY REGION, THROUGH 2019 (MILLION POUNDS)	171
TABLE 115 GLOBAL REVENUES OF ACID BY REGION, THROUGH 2019 (\$ MILLIONS)	172
TABLE 116 GLOBAL USAGE OF SOLVENT BY REGION, THROUGH 2019 (MILLION POUNDS)	173
TABLE 117 GLOBAL REVENUES OF SOLVENT BY REGION, THROUGH 2019 (\$ MILLIONS)	173

TABLE HEADING	PAGE NO.
TABLE 118 GLOBAL USAGE OF SCALE INHIBITOR BY REGION, THROUGH 2019 (MILLION POUNDS)	174
TABLE 119 GLOBAL REVENUES OF SCALE INHIBITOR BY REGION, THROUGH 2019 (\$ MILLIONS)	175
TABLE 120 GLOBAL USAGE OF CLAY STABILIZER/CONTROLLER BY REGION, THROUGH 2019 (MILLION POUNDS)	176
TABLE 121 GLOBAL REVENUES OF CLAY STABILIZER/CONTROLLER BY REGION, THROUGH 2019 (\$ MILLIONS)	176
TABLE 122 USAGE OF TOTAL FRACKING FLUIDS IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	177
TABLE 123 REVENUES OF TOTAL FRACKING FLUIDS IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	177
TABLE 124 USAGE OF CARRIER FLUID IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	178
TABLE 125 REVENUES OF CARRIER FLUID IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	178
TABLE 126 USAGE OF PROPPANT IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	178
TABLE 127 REVENUES OF PROPPANT IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	179
TABLE 128 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	180
TABLE 129 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE AFRICA/MIDDLE EAST REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	180
TABLE 130 USAGE OF TOTAL FRACKING FLUIDS IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	181
TABLE 131 REVENUES OF TOTAL FRACKING FLUIDS IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	181
TABLE 132 USAGE OF CARRIER FLUID IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	181
TABLE 133 REVENUES OF CARRIER FLUID IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	182
TABLE 134 USAGE OF PROPPANT IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	182
TABLE 135 REVENUES OF PROPPANT IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	183
TABLE 136 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	183
TABLE 137 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE ASIA-PACIFIC REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	183
TABLE 138 USAGE OF EUROPE REGION FRACKING FLUIDS, THROUGH 2019 (MILLION POUNDS)	184
TABLE 139 REVENUES OF EUROPE REGION FRACKING FLUIDS, THROUGH 2019 (\$ MILLIONS)	184
TABLE 140 USAGE OF TOTAL FRACKING FLUIDS IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	185
TABLE 141 REVENUES OF TOTAL FRACKING FLUIDS IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	185
TABLE 142 USAGE OF CARRIER FLUID IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	185
TABLE 143 REVENUES OF CARRIER FLUID IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	186

TABLE HEADING	PAGE NO.
TABLE 144 USAGE OF PROPPANT IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	186
TABLE 145 REVENUES OF PROPPANT IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	187
TABLE 146 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	187
TABLE 147 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	187
TABLE 148 USAGE OF TOTAL FRACKING FLUIDS IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	188
TABLE 149 REVENUES OF TOTAL FRACKING FLUIDS IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	188
TABLE 150 USAGE OF CARRIER FLUID IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	188
TABLE 151 REVENUES OF CARRIER FLUID IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	188
TABLE 152 USAGE OF PROPPANT IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	189
TABLE 153 REVENUES OF PROPPANT IN THE NORTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	189
TABLE 154 USAGE OF COMBINED CHEMICAL ADDITIVE IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (MILLION POUNDS)	189
TABLE 155 REVENUES OF COMBINED CHEMICAL ADDITIVE IN THE SOUTH AMERICA REGION BY COUNTRY, THROUGH 2019 (\$ MILLIONS)	190

LIST OF FIGURES

FIGURE TITLE	PAGE NO.
SUMMARY FIGURE GLOBAL MARKET FOR FRACKING FLUIDS, 2013-2019 (\$ MILLIONS)	9
FIGURE 1 TOTAL FRACKING FLUIDS BASED ON TECHNICALLY RECOVERABLE RESOURCES FOR SHALE GAS, TIGHT OIL AND COALBED METHANE, 2013 (%)	13
FIGURE 2 TOTAL FRACKING FLUID FROM TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE, 2013 (% USAGE)	15
FIGURE 3 TOTAL FRACKING FLUID REVENUES BASED ON TRR FOR SHALE GAS, TIGHT OIL AND COALBED METHANE BY REGION, 2013 (\$ BILLIONS)	17
FIGURE 4 SUMMARY OF FRACKING FLUID SYSTEMS (% OF FRACTURING TREATMENTS)	35
FIGURE 5 MARKET SHARE BY USAGE VOLUME, BY CONSTITUENTS 2014 (%)	44
FIGURE 6 MARKET SHARE BY USAGE VOLUME, BY CHEMICAL ADDITIVE 2014 (%)	44
FIGURE 7 FRACKING FLUIDS MARKET SHARE BY REVENUES, 2014 (%)	46
FIGURE 8 CARRIER FLUIDS MARKET SHARE BY PRODUCTS, 2014 (%)	48
FIGURE 9 PROPPANTS MARKET SHARE BY PRODUCT TYPE, 2013 (%)	53
FIGURE 10 GELLING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)	56
FIGURE 11 IRON CONTROL AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)	60
FIGURE 12 BREAKER FLUIDS MARKET SHARE BY PRODUCTS, 2013 (%)	63
FIGURE 13 CORROSION INHIBITORS MARKET SHARE BY PRODUCTS, 2013 (%)	66
FIGURE 14 PH ADJUSTERS MARKET SHARE BY PRODUCTS, 2013 (%)	69
FIGURE 15 BIOCIDES MARKET SHARE BY PRODUCTS, 2013 (%)	72
FIGURE 16 FRICTION REDUCERS MARKET SHARE BY PRODUCTS, 2013 (USAGE VOLUME %)	75
FIGURE 17 SURFACTANTS MARKET SHARE BY PRODUCTS, 2013 (USAGE VOLUME %)	78
FIGURE 18 CROSSLINKING AGENTS MARKET SHARE BY PRODUCTS, 2013 (%)	81
FIGURE 19 ACIDS MARKET SHARE BY PRODUCTS, 2013 (%)	84
FIGURE 20 SOLVENTS MARKET SHARE BY PRODUCTS, 2013 (%)	86
FIGURE 21 SCALE INHIBITORS MARKET SHARE BY PRODUCTS, 2013 (%)	89
FIGURE 22 CLAY STABILIZERS MARKET SHARE BY PRODUCTS, 2013 (%)	92
FIGURE 23 FRACKING FLUID INDUSTRY STRUCTURE	95
FIGURE 24 HYDRAULIC FRACTURING PROCESS VALUE CHAIN	97
FIGURE 25 FRACKING FLUID DISPOSAL, 2013 (% OF TREATMENT)	100
FIGURE 26 TRR BASED TOTAL FRACKING FLUID USAGE VOLUME BY COUNTRY (BILLION POUNDS)	109
FIGURE 27 TOTAL FRACKING FLUIDS USAGE GLOBALLY BY ENERGY TYPE, 2013 (%)	110
FIGURE 28 TOTAL GLOBAL FRACKING FLUIDS FOR GAS RESERVOIRS, 2013 (BILLION POUNDS)	113
FIGURE 29 TOTAL GLOBAL FRACKING FLUID REVENUE SHARES FOR GAS RESERVOIRS, 2013 (%)	114
FIGURE 30 TOTAL GLOBAL FRACKING FLUID REVENUE SHARES FOR GAS RESERVOIRS BY CHEMICAL ADDITIVE TYPE, 2013 (%)	115
FIGURE 31 TOTAL GLOBAL FRACKING FLUID REVENUE SHARE FOR OIL RESERVOIRS, 2013 (%)	119
FIGURE 32 TOTAL GLOBAL CHEMICAL ADDITIVES REVENUE SHARE FOR OIL RESERVOIRS, 2013 (%)	120
FIGURE 33 GLOBAL FRACKING FLUID VOLUME SHARES BASED ON TRR BY REGION, 2013 (%)	124
FIGURE 34 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE AFRICA/MIDDLE EAST REGION, 2013 (%)	126

FIGURE TITLE	PAGE NO.
FIGURE 35 FRACTURING STATUS BY COUNTRY AND SHALE BASIN IN THE ASIA-PACIFIC EAST REGION, 2013 (%)	131
FIGURE 36 TOTAL FRACKING FLUIDS WORLD USAGE BASED ON TRR IN THE ASIA-PACIFIC REGION BY ENERGY TYPE, 2013 (%)	132
FIGURE 37 TOTAL FRACKING FLUIDS WORLD USAGE BASED ON TRR IN THE EUROPE REGION BY ENERGY TYPE, 2013 (%)	135
FIGURE 38 TOTAL FRACKING FLUIDS WORLD USAGE BASED ON TRR IN THE NORTH AMERICAN REGION BY ENERGY TYPE, 2013 (%)	138
FIGURE 39 TOTAL FRACKING FLUIDS USAGE BASED ON TRR IN THE SOUTH AMERICAN REGION BY ENERGY TYPE, 2013 (%)	140
FIGURE 40 GLOBAL USAGE OF TOTAL FRACKING FLUIDS BY REGION, 2013 TO 2019 (MILLION POUNDS)	143
FIGURE 41 GLOBAL USAGE VOLUME OF TOTAL FRACKING FLUIDS BY REGION, 2013 AND 2019 (%)	144
FIGURE 42 GLOBAL USAGE VOLUME OF TOTAL FRACKING FLUIDS BY REGION, 2019 (%)	144
FIGURE 43 GLOBAL REVENUES OF TOTAL FRACKING FLUIDS BY REGION, 2013-2019 (\$ MILLIONS)	146
FIGURE 44 GLOBAL USAGE VOLUME OF CARRIER FLUID BY REGION, 2013 AND 2019 (%)	147
FIGURE 45 GLOBAL REVENUES OF CARRIER FLUID BY REGION, 2013-2019 (\$ MILLIONS)	149
FIGURE 46 GLOBAL VOLUME USAGE SHARE OF PROPPANTS BY REGION, 2013 AND 2019 (%)	150
FIGURE 47 GLOBAL REVENUES OF PROPPANTS BY REGION, 2013-2019 (\$ MILLIONS)	152
FIGURE 48 GLOBAL VOLUME USAGE SHARE OF TOTAL CHEMICAL ADDITIVES BY REGION 2013-2019 (%)	154
FIGURE 49 GLOBAL REVENUES OF CHEMICAL ADDITIVES BY REGION, 2013-2019 (\$ MILLIONS)	156