

BLACKROCK MUNIHOLDINGS INVESTMENT QUALITY FUND

Form N-Q

July 26, 2012

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM N-Q

QUARTERLY SCHEDULE OF PORTFOLIO HOLDINGS OF REGISTERED MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number 811-08349

Name of Fund: BlackRock MuniHoldings Investment Quality Fund (MFL)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: John M. Perlowski, Chief Executive Officer, BlackRock MuniHoldings Investment Quality Fund, 55 East 52nd Street, New York, NY 10055

Registrant's telephone number, including area code: (800) 882-0052, Option 4

Date of fiscal year end: 08/31/2012

Date of reporting period: 05/31/2012

Item 1 – Schedule of Investments

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Schedule of Investments May 31, 2012 (Unaudited)

BlackRock MuniHoldings Investment Quality Fund (MFL)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Municipal Bonds		
Alabama 5.2%		
Auburn University, Refunding RB, Series A:		
5.00%, 6/01/29	\$ 5,665	\$ 6,691,272
5.00%, 6/01/31	3,250	3,795,740
Birmingham Special Care Facilities Financing Authority, RB, Children s Hospital (AGC):		
6.13%, 6/01/34	4,980	5,765,296
6.00%, 6/01/39	10,995	12,692,958
Selma IDB, RB, International Paper Co., Project, Series A, 5.38%, 12/01/35	1,745	1,871,041
		30,816,307
Arizona 5.9%		
Arizona Board of Regents, Refunding COP, University of Arizona, Series C, 5.00%, 6/01/25 (a)	7,755	8,940,817
Arizona Board of Regents, Refunding RB:		
Arizona State University, System, Series A, 5.00%, 7/01/42	5,000	5,600,850
Series A, 5.00%, 6/01/42	3,000	3,376,950
Arizona Board of Regents, Tax Exempt Refunding RB, Series A, 5.00%, 7/01/30	3,140	3,659,074
Arizona State Board of Regents, Refunding RB, Series A:		
5.00%, 7/01/28	620	727,781
5.00%, 7/01/29	580	678,072
State of Arizona, COP, Department of Administration, Series A (AGM), 5.25%, 10/01/24	10,260	11,920,786
		34,904,330
California 22.7%		
California Educational Facilities Authority, RB, University of Southern California, Series A, 5.25%, 10/01/38	8,920	10,356,031
California Health Facilities Financing Authority, RB:		
Stanford Hospital and Clinics, Series A, 5.00%, 8/15/42	450	496,107
Stanford Hospital and Clinics, Series A, 5.00%, 8/15/51	4,690	5,083,632
Sutter Health, Series B, 6.00%, 8/15/42	5,370	6,349,434
California State Public Works Board, RB, Various Capital Projects, Series G-1 (AGC), 5.25%, 10/01/24	5,000	5,745,000
California State University, RB, Systemwide, Series A (AGM), 5.00%, 11/01/39	2,975	3,195,091

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Municipal Bonds	Par (000)	Value
California (concluded)		
California Statewide Communities Development Authority, RB, Kaiser Permanente, Series A, 5.00%, 4/01/42	\$ 4,345	\$ 4,695,164
City of San Jose California, RB, Series A-1, AMT, 5.75%, 3/01/34	4,450	5,040,960
County of Sacramento California, RB, Senior Series A (AGC), 5.50%, 7/01/41	6,600	7,344,216
Los Angeles Community College District California, GO:		
Election of 2001, Series A (NPFGC), 5.00%, 8/01/32	10,000	11,094,900
Election of 2008, Series C, 5.25%, 8/01/39	3,675	4,246,793
Los Angeles Department of Water & Power, RB, Power System, Sub-Series A-1, 5.25%, 7/01/38	5,000	5,800,850
Los Angeles Municipal Improvement Corp., Refunding RB, Real Property, Series B (AGC), 5.50%, 4/01/39	2,980	3,304,909
Los Angeles Unified School District California, GO, Series D, 5.25%, 7/01/25	3,485	4,085,012
Manteca Financing Authority California, RB, Manteca Sewer (AGC):		
5.63%, 12/01/33	2,450	2,782,171
5.75%, 12/01/36	3,285	3,738,691
Redondo Beach Unified School District, GO, Election of 2008, Series E, 5.50%, 8/01/34	4,110	4,805,823
San Bernardino Community College District, GO, Election of 2002, Series A, 6.25%, 8/01/33	3,820	4,544,807
San Diego Public Facilities Financing Authority, Refunding RB, Series B (AGC), 5.38%, 8/01/34	4,690	5,436,085
San Jacinto Unified School District, GO, Election of 2006 (AGM), 5.25%, 8/01/32	3,000	3,263,760
State of California, GO, Various Purpose: 5.00%, 9/01/41	10,345	11,096,254
(AGC), 5.50%, 11/01/39	15,000	16,871,400
State of California, Refunding RB, 5.25%, 2/01/30	3,275	3,761,731
		133,138,821
Colorado 1.2%		
Colorado Health Facilities Authority, RB, Hospital, NCMC Inc. Project, Series B (AGM), 6.00%, 5/15/26	5,925	6,954,528
District of Columbia 1.7%		
District of Columbia Water & Sewer Authority, RB: Series A (NPFGC), 5.00%, 10/01/38	1,000	1,107,950

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Municipal Bonds		
District of Columbia (concluded)		
District of Columbia Water & Sewer Authority, RB (concluded):		
Sub Lien, Series A, Public Utility Revenue, 5.00%, 10/01/30	\$ 7,515	\$ 8,848,988
		9,956,938
Florida 9.0%		
City of Jacksonville Florida, RB, Sales Tax Revenue, Better Jacksonville (NPFGC), 5.00%, 10/01/27	10,000	10,460,100
City of Jacksonville Florida, Refunding RB, Sales Tax Revenue, Better Jacksonville (AGM), 5.00%, 10/01/29	3,500	3,955,035
County of Lee Florida, Refunding ARB, Series A, AMT, 5.38%, 10/01/32	4,600	4,979,638
County of Miami-Dade Florida, RB, Miami International Airport, Series A, AMT:		
(AGM), 5.50%, 10/01/41	3,500	3,738,490
(NPFGC), 6.00%, 10/01/29	8,000	8,055,760
Florida Housing Finance Corp., RB, Waverly Apartments, Series C-1 AMT (AGM), 6.30%, 7/01/30	2,055	2,058,411
Florida Housing Finance Corp., Refunding RB, AMT (NPFGC) Homeowner Mortgage, Series 2:		
5.75%, 7/01/14	350	350,931
5.90%, 7/01/29	5,670	5,735,092
Manatee County Housing Finance Authority, RB, Series A, AMT (Ginnie Mae), 5.90%, 9/01/40	2,700	3,009,069
Miami-Dade County Housing Finance Authority Florida, RB, Marbrisa Apartments Project, Series 2A, AMT (AGM), 6.00%, 8/01/26	2,185	2,192,364
Orange County Health Facilities Authority, RB, The Nemours Foundation Project, Series A, 5.00%, 1/01/29	3,555	3,949,889
Palm Beach County Florida School Board, Refunding COP, Series A, 5.00%, 8/01/28	4,000	4,524,000
		53,008,779
Illinois 16.3%		
Chicago Board of Education Illinois, GO, Series A, 5.50%, 12/01/39	6,370	7,281,419
Chicago Board of Education Illinois, GO, Refunding, Chicago School Reform Board (NPFGC), 5.50%, 12/01/26	1,620	1,974,181
Chicago Transit Authority, RB:		

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Federal Transit Administration Section 5309, Series A (AGC), 6.00%, 6/01/26	6,315	7,411,221
Sales Tax Receipts Revenue, 5.25%, 12/01/36	1,960	2,206,509
	Par (000)	Value
Municipal Bonds		
Illinois (concluded)		
Chicago Transit Authority, RB (concluded):		
Sales Tax Receipts Revenue, 5.25%, 12/01/40	\$ 5,515	\$ 6,180,385
City of Chicago Illinois, RB: General, Third Lien, Series A, 5.75%, 1/01/39	7,395	8,577,534
General, Third Lien, Series C, 6.50%, 1/01/41	16,800	20,328,000
City of Chicago Illinois, Refunding RB: Sales Tax Revenue, Series A, 5.25%, 1/01/38	2,445	2,758,889
Waterworks Revenue Project, 5.00%, 11/01/42	4,360	4,870,120
City of Chicago Illinois, Refunding RB, O Hare International Airport, General, Third Lien, Series C, 5.25%, 1/01/35	4,520	4,995,188
Illinois Finance Authority, RB: Carle Foundation, Series A, 6.00%, 8/15/41	4,000	4,444,640
University of Chicago, Series B, 5.50%, 7/01/37	10,000	11,694,200
Railsplitter Tobacco Settlement Authority, RB: 5.50%, 6/01/23	4,365	5,028,567
6.00%, 6/01/28	1,245	1,428,613
State of Illinois, RB, Build Illinois, Series B, 5.25%, 6/15/26	5,625	6,478,875
		95,658,341
Indiana 3.5%		
Indiana Finance Authority Waste Water Utility, RB, First Lien, CWA Authority, Series A, 5.00%, 10/01/41	4,080	4,471,558
Indianapolis Local Public Improvement Bond Bank, Refunding RB, Waterworks Project, Series A (AGC), 5.50%, 1/01/38	14,105	15,829,759
		20,301,317
Kentucky 0.4%		
The Turnpike Authority of Kentucky, RB, Revitalization Projects, Series A, 5.00%, 7/01/29	2,235	2,655,649
Louisiana 0.2%		
New Orleans Aviation Board Louisiana, Refunding RB, GARB, Restructuring (AGC): Series A-1, 6.00%, 1/01/23	500	597,230
Series A-2, (AGC), 6.00%, 1/01/23	720	860,011
		1,457,241
Massachusetts 0.4%		
	2,090	2,398,400

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Massachusetts Development Finance
Agency, RB, Wellesley College, Series
J, 5.00%, 7/01/42

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Municipal Bonds		
Michigan 7.8%		
City of Detroit Michigan, RB: Second Lien, Series B (AGM), 6.25%, 7/01/36	\$ 6,320	\$ 7,303,139
Second Lien, Series B (NPFGC), 5.50%, 7/01/29	7,490	8,406,027
Senior Lien, Series B (AGM), 7.50%, 7/01/33	2,780	3,506,025
City of Detroit Michigan, Refunding RB, Senior Lien, Series C-1 (AGM), 7.00%, 7/01/27	9,055	11,040,399
Hudsonville Public Schools, GO, School Building & Site (Q-SBLF), 5.25%, 5/01/41	6,015	6,698,123
Michigan State Building Authority, Refunding RB, Facilities Program, Series I (AGC), 5.25%, 10/15/25	1,435	1,682,911
Royal Oak Hospital Finance Authority Michigan, Refunding RB, William Beaumont Hospital, 8.25%, 9/01/39	5,780	7,387,245
		46,023,869
Minnesota 2.0%		
City of Minneapolis Minnesota, Refunding RB, Fairview Health Services, Series B (AGC), 6.50%, 11/15/38	9,900	11,753,577
Mississippi 1.0%		
Medical Center Educational Building Corporation, RB, University of Mississippi Medical Center Facilities Expansion & Renovation Project, Series A, 5.00%, 6/01/41	5,380	5,950,710
Nebraska 0.9%		
Nebraska Investment Finance Authority, Refunding RB, Series A: 5.90%, 9/01/36	3,650	4,171,001
6.05%, 9/01/41	1,015	1,078,712
		5,249,713
Nevada 5.5%		
Clark County Water Reclamation District, GO, Series A, 5.25%, 7/01/34	10,850	12,685,711
County of Clark Nevada, RB: Las Vegas-McCarran International Airport, Series A (AGC), 5.25%, 7/01/39	12,750	14,063,760
Subordinate Lien, Series A-2 (NPFGC), 5.00%, 7/01/36	5,390	5,701,704
		32,451,175
New Jersey 3.7%		
	6,500	7,142,265

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New Jersey Health Care Facilities
Financing Authority, RB, Virtua Health
(AGC), 5.50%, 7/01/38

	Par (000)	Value
Municipal Bonds		
New Jersey (concluded)		
New Jersey Higher Education Student Assistance Authority, Refunding RB, Series 1, AMT, 5.75%, 12/01/28	\$ 4,475	\$ 5,039,924
New Jersey Transportation Trust Fund Authority, RB, Transportation System: Series A, 5.50%, 6/15/41	5,410	6,269,432
Series B, 5.25%, 6/15/36	2,960	3,365,757
		21,817,378
New York 9.6%		
Metropolitan Transportation Authority, Refunding RB, Transportation, Series C, 5.00%, 11/15/28	5,500	6,347,330
New York City Municipal Water Finance Authority, RB: Fiscal 2009, Series EE, 5.25%, 6/15/40	7,500	8,457,000
Series FF-2, 5.50%, 6/15/40	4,000	4,608,320
New York City Municipal Water Finance Authority, Refunding RB, Second General Resolution, Series EE, 5.38%, 6/15/43	3,475	4,007,718
New York City Transitional Finance Authority, RB: Future Tax Secured, Subseries E-1, 5.00%, 2/01/42	7,210	8,127,977
Series S-3, 5.25%, 1/15/39	5,625	6,283,125
Sub-Future Tax Secured, Series C, 5.00%, 11/01/39	4,865	5,438,000
Sub-Series S-2A, 5.00%, 7/15/30	7,110	8,182,117
New York City Transitional Finance Authority, RB, Fiscal 2009, Series S-4 (AGC), 5.50%, 1/15/29	4,000	4,680,160
		56,131,747
North Carolina 2.1%		
City of Charlotte NC, ARB, Airport Revenue, Charlotte Douglas Airport, Series A, 5.00%, 7/01/41	7,540	8,345,272
University of North Carolina, Refunding RB, 5.00%, 4/01/28	3,275	3,818,519
		12,163,791
Pennsylvania 1.7%		
Pennsylvania Turnpike Commission, RB, Sub-Series A, 6.00%, 12/01/41	4,945	5,589,136
Philadelphia Hospitals & Higher Education Facilities Authority, Refunding RB, Children s Hospital Philadelphia, Series D, 5.00%, 7/01/32	3,785	4,302,258
		9,891,394

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Municipal Bonds		
Puerto Rico 1.3%		
Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.38%, 8/01/39	\$ 6,610	\$ 7,731,915
Texas 18.1%		
City of Austin Texas, Refunding RB, Series A (AGM), 5.00%, 11/15/28	3,360	3,902,102
City of Houston Texas, Refunding RB, Combined First Lien, Series A (AGC): 6.00%, 11/15/35	12,700	15,350,236
6.00%, 11/15/36	9,435	11,364,080
5.38%, 11/15/38	5,000	5,730,300
Dallas Area Rapid Transit, Refunding RB, Senior Lien, 5.25%, 12/01/38	10,110	11,330,176
Harris County Cultural Education Facilities Finance Corp., RB, Texas Children s Hospital Project, 5.25%, 10/01/29	3,645	4,147,682
Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B, 7.25%, 12/01/35	1,500	1,801,320
Katy Independent School District, Refunding RB, School Building, Series A, (PSF-GTD), 5.00%, 2/15/42 (a)	3,505	4,002,500
Lamar Texas Consolidated Independent School District, GO, Refunding, School House, Series A, 5.00%, 2/15/45	4,175	4,752,695
North Texas Tollway Authority, RB, Special Projects System, Series A, 5.50%, 9/01/41	3,500	4,091,080
North Texas Tollway Authority, Refunding RB, System, First Tier: (AGM), 6.00%, 1/01/43	5,555	6,563,233
Series K-1 (AGC), 5.75%, 1/01/38	12,150	13,729,379
Tarrant County Cultural Education Facilities Finance Corp., Refunding RB, Christus Health, Series A (AGC), 6.50%, 7/01/37	1,770	2,045,978
Texas State Turnpike Authority, RB, Central Texas Turnpike System, First Tier, Series A (AMBAC), 5.00%, 8/15/42	5,790	5,790,463
Texas Tech University, Refunding RB, Improvement Bonds, 14th Series A, 5.00%, 8/15/32	1,500	1,733,160
University of Texas System, Refunding RB, Financing System, Series B, 5.00%, 8/15/43	8,495	9,801,021
		106,135,405
Virginia 0.9%		

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Virginia Public School Authority, RB, School Financing, 6.50%, 12/01/35	4,300	5,077,053
Washington 1.5%		
City of Seattle Washington, Refunding RB, Series A, 5.25%, 2/01/36	4,200	4,843,566

	Par (000)	Value
Municipal Bonds		
Washington (concluded)		
State of Washington, GO, Various Purpose, Series B, 5.25%, 2/01/36	\$ 3,290	\$ 3,813,011
		8,656,577
Wisconsin 1.1%		
Wisconsin Health & Educational Facilities Authority, Refunding RB, Ascension Health, Series D, 5.00%, 11/15/41	5,800	6,314,750
Total Municipal Bonds 123.7%		726,599,705

Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts (b)

Alabama 1.2%		
Mobile Board of Water & Sewer Commissioners, RB (NPFGC), 5.00%, 1/01/31	6,500	6,863,610
California 2.0%		
California State University, Refunding RB, Systemwide, Series A (AGM), 5.00%, 11/01/32	7,960	8,954,761
Los Angeles Unified School District California, GO, Series I, 5.00%, 1/01/34	2,400	2,663,760
		11,618,521
District of Columbia 0.7%		
District of Columbia Water & Sewer Authority, RB, Series A, 6.00%, 10/01/35	3,381	4,242,689
Florida 2.7%		
Hillsborough County Aviation Authority, RB, Series A, AMT (AGC), 5.50%, 10/01/38	10,657	11,401,520
Lee County Housing Finance Authority, RB, Multi-County Program, Series A-2, AMT (Ginnie Mae), 6.00%, 9/01/40	4,065	4,334,591
		15,736,111
Illinois 1.4%		
Chicago Transit Authority, Refunding RB, Federal Transit Administration Section 5309 (AGM), 5.00%, 6/01/28	7,737	8,406,383
Indiana 1.8%		
Indiana Health & Educational Facilities Financing Authority, Refunding RB, St. Francis, Series E (AGM), 5.25%, 5/15/41	9,850	10,466,019
Kentucky 0.1%		
Kentucky State Property & Building Commission, Refunding RB, Project No. 93 (AGC), 5.25%, 2/01/27	404	464,440

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Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)
(Percentages shown are based on Net Assets)

	Par (000)	Value
Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts (b)		
Massachusetts 1.8%		
Massachusetts School Building Authority, RB, Senior-Series B, 5.00%, 10/15/41	\$ 9,440	\$ 10,716,194
Nevada 2.7%		
Clark County Water Reclamation District, GO:		
Limited Tax, 6.00%, 7/01/38	8,000	9,896,560
Series B, 5.50%, 7/01/29	5,008	5,836,972
		15,733,532
New Jersey 3.8%		
New Jersey EDA, RB, School Facilities Construction, Series Z (AGC), 6.00%, 12/15/34	4,350	5,021,814
New Jersey State Housing & Mortgage Finance Agency, RB, S/F Housing, Series CC, 5.25%, 10/01/29	7,402	8,083,990
New Jersey Transportation Trust Fund Authority, RB, Transportation System, Series A (AGM), 5.00%, 12/15/32	8,000	9,002,480
		22,108,284
New York 10.7%		
Hudson New York Yards Infrastructure Corp., RB, Series A, 5.75%, 2/15/47	9,249	10,648,882
New York City Municipal Water Finance Authority, Refunding RB, Series FF-2, 5.50%, 6/15/40	4,994	5,753,254
New York City Transitional Finance Authority, RB, Future Tax Secured, Sub-Series E1, 5.00%, 2/01/42	5,439	6,131,360
New York Liberty Development Corp., RB, World Trade Center Port Authority, Series 1, 5.25%, 12/15/43	13,950	15,866,591
New York State Dormitory Authority, RB, Short Term Personal Income, Tax Revenue Education, Series B, 5.25%, 3/15/38	13,500	15,388,110
New York State Liberty Development Corp., Refunding RB, World Trade Center Project, 5.75%, 11/15/51	8,200	9,431,886
		63,220,083
Puerto Rico 1.0%		
Puerto Rico Sales Tax Financing Corp., Sales Tax Refunding RB, Sales Tax, Series C, 5.25%, 8/01/40	5,590	6,184,776
Texas 6.4%		
City of San Antonio Texas, Refunding RB, Series A, 5.25%, 2/01/31	12,027	13,894,922
North Texas Tollway Authority, RB, Special Projects System, Series A, 5.50%, 9/01/41	9,640	11,268,003

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	Par (000)	Value
Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts (b)		
Texas (concluded)		
Waco Educational Finance Corporation, Refunding RB, Baylor University, 5.00%, 3/01/43	\$ 11,250	\$ 12,672,900
		37,835,825
Utah 1.2%		
City of Riverton Utah Hospital, RB, IHC Health Services Inc., 5.00%, 8/15/41	6,373	6,880,389
Washington 1.7%		
University of Washington, Refunding RB, Series A, 5.00%, 7/01/41	8,698	9,949,581
Total Municipal Bonds Transferred to Tender Option Bond (TOB) Trusts 39.2%		230,426,437
Total Long-Term Investments (Cost \$874,585,048) 162.9%		957,026,142

Short-Term Securities

Alabama 0.1%

Eutaw Industrial Development Board, Refunding RB, VRDN, Alabama Power Company Project, 0.13%, 6/01/12 (c)	600	600,000
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Shares

FFI Institutional Tax-Exempt Fund, 0.04% (d)(e)	19,976,206	19,976,206
Total Short-Term Securities (Cost \$20,576,206) 3.5%		20,576,206
Total Investments (Cost - \$895,161,254*) 166.4%		977,602,348
Liabilities in Excess of Other Assets (0.2)%		(1,018,003)
Liability for TOB Trust Certificates, Including Interest Expense and Fees Payable (19.5)%		(114,578,616)
VRDP Shares, at Liquidation Value (46.7)%		(274,600,000)
Net Assets Applicable to Common Shares 100.0%		\$ 587,405,729

* As of May 31, 2012, gross unrealized appreciation and gross unrealized depreciation based on cost for federal income tax purposes were as follows:

Tax cost	\$ 780,880,026
Gross unrealized appreciation	\$ 82,276,631
Gross unrealized depreciation	(68,998)
Net unrealized appreciation	\$ 82,207,633

Schedule of Investments (continued)

BlackRock MuniHoldings Investment Quality Fund (MFL)

(a) When-issued security. Unsettled when-issued transactions were as follows:

Counterparty	Value	Unrealized Appreciation
Citigroup Global Markets	\$ 8,940,817	\$ 33,269
Piper Jaffrey	\$ 4,002,500	\$ 33,192

(b) Securities represent bonds transferred to a TOB in exchange for which the Fund acquired residual interest certificates. These securities serve as collateral in a financing transaction.

(c) Variable rate security. Rate shown is as of report date and maturity shown is the date the principal owed can be recovered through demand.

(d) Investments in companies considered to be an affiliate of the Fund during the period, for purposes of Section 2(a)(3) of the Investment Company Act of 1940, as amended, were as follows:

Affiliate	Shares Held at August 31, 2011	Net Activity	Shares Held at May 31, 2012	Income
FFI Institutional Tax-Exempt Fund	22,122,505	(2,146,299)	19,976,206	\$ 2,701

(e) Represents the current yield as of report date.

Financial futures contracts sold as of May 31, 2012 were as follows:

Contracts	Issue	Exchange	Expiration	Notional Value	Unrealized Depreciation
195	10-Year US Treasury Note	Chicago Board of Trade	September 2012	\$ 26,117,813	\$ (228,886)

Portfolio Abbreviations

To simplify the listings of portfolio holdings in the Schedule of Investments, the names and descriptions of many of the securities have been abbreviated according to the following list:

AGC	Assured Guaranty Corp.
AGM	Assured Guaranty Municipal Corp.
AMBAC	American Municipal Bond Assurance Corp.
AMT	Alternative Minimum Tax (subject to)
ARB	Airport Revenue Bonds

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COP	Certificates of Participation
EDA	Economic Development Authority
GARB	General Airport Revenue Bonds
GO	General Obligation Bonds
Ginnie Mae	Government National Mortgage Association
IDB	Industrial Development Board
NPFGC	National Public Finance Guarantee Corp.
PSF-GTD	Permanent School Fund Guaranteed
Q-SBLF	Qualified School Bond Loan Fund
RB	Revenue Bonds
S/F	Single-Family
VRDN	Variable Rate Demand Notes

Fair Value Measurements - Various inputs are used in determining the fair value of investments and derivative financial instruments. These inputs are categorized into a disclosure hierarchy consisting of three broad levels for financial reporting purposes as follows:

Level 1 unadjusted price quotations in active markets/exchanges for identical assets and liabilities

Level 2 other observable inputs (including, but not limited to: quoted prices for similar assets or liabilities in markets that are active, quoted prices for identical or similar assets or liabilities in markets that are not active, inputs other than quoted prices that are observable for the assets or liabilities (such as interest rates, yield curves, volatilities, prepayment speeds, loss severities, credit risks and default rates) or other market-corroborated inputs)

Level 3 unobservable inputs based on the best information available in the circumstances, to the extent observable inputs are not available (including the Fund's own assumptions used in determining the fair value of investments and derivative financial instruments)

Changes in valuation techniques may result in transfers into or out of an assigned level within the disclosure hierarchy. In accordance with the Fund's policy, transfers between different levels of the fair value disclosure hierarchy are deemed to have occurred as of the beginning of the reporting period. The categorization of a value determined for investments and derivative financial instruments is based on the pricing transparency of the investment and derivative financial instrument and is not necessarily an indication of the risks associated with investing in those securities. For information about the Fund's policy regarding valuation of investments and derivative financial instruments and other significant accounting policies, please refer to the Fund's most recent financial statements as contained in its semi-annual report.

The following tables summarize the inputs used as of May 31, 2012 in determining the fair valuation of the Fund's investments and derivative financial instruments:

Valuation Inputs	Level 1	Level 2	Level 3	Total
Assets:				
Investments:				
Long-Term Investments ¹		\$ 957,026,142		\$ 957,026,142
Short-Term Securities	\$ 19,976,206	600,000		20,576,206
Total	\$ 19,976,206	\$ 957,626,142		\$ 977,602,348

¹ See above Schedule of Investments for values in each state or political subdivision.

Valuation Inputs	Level 1	Level 2	Level 3	Total
Derivative Financial Instruments ²				
Interest rate contracts	\$ (228,886)			\$ (228,886)

²

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Derivative financial instruments are financial futures contracts, which are valued at the unrealized appreciation/depreciation on the instrument.

BLACKROCK MUNIHOLDINGS INVESTMENT QUALITY FUND

MAY 31, 2012

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Schedule of Investments (concluded)

BlackRock MuniHoldings Investment Quality Fund (MFL)

Certain of the Fund's assets and liabilities are held at carrying amount, which approximates fair value for financial reporting purposes. As of May 31, 2012, such assets and liabilities are categorized within the disclosure hierarchy as follows:

Valuation Inputs	Level 1	Level 2	Level 3	Total
Assets:				
Cash pledged as collateral for financial futures contracts	\$ 515,000			\$ 515,000
Liabilities:				
TOB trust certificates		\$ (114,514,689)		(114,514,689)
VRDP shares		(274,600,000)		(274,600,000)
Total	\$ 515,000	\$ (389,114,689)		\$ (388,599,689)

There were no transfers between levels during the period ended May 31, 2012.

BLACKROCK MUNIHOLDINGS INVESTMENT QUALITY FUND

MAY 31, 2012

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Item 2 – Controls and Procedures

- 2(a) – The registrant’s principal executive and principal financial officers, or persons performing similar functions, have concluded that the registrant’s disclosure controls and procedures (as defined in Rule 30a-3(c) under the Investment Company Act of 1940, as amended (the “1940 Act”)) are effective as of a date within 90 days of the filing of this report based on the evaluation of these controls and procedures required by Rule 30a-3(b) under the 1940 Act and Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended.
- 2(b) – There were no changes in the registrant’s internal control over financial reporting (as defined in Rule 30a-3(d) under the 1940 Act) that occurred during the registrant’s last fiscal quarter that have materially affected, or are reasonably likely to materially affect, the registrant’s internal control over financial reporting.

Item 3 – Exhibits

Certifications – Attached hereto

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BlackRock MuniHoldings Investment Quality Fund

By: /s/ John M. Perlowski
John M. Perlowski
Chief Executive Officer (principal executive officer) of
BlackRock MuniHoldings Investment Quality Fund

Date: July 25, 2012

Pursuant to the requirements of the Securities Exchange Act of 1934 and the Investment Company Act of 1940, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By: /s/ John M. Perlowski
John M. Perlowski
Chief Executive Officer (principal executive officer) of
BlackRock MuniHoldings Investment Quality Fund

Date: July 25, 2012

By: /s/ Neal J. Andrews
Neal J. Andrews
Chief Financial Officer (principal financial officer) of
BlackRock MuniHoldings Investment Quality Fund

Date: July 25, 2012

