

BLACKROCK APEX MUNICIPAL FUND INC

Form N-Q

September 28, 2010

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 811-05227

Name of Fund: BlackRock Apex Municipal Fund, Inc. (APX)

Fund Address: 100 Bellevue Parkway, Wilmington, DE 19809

Name and address of agent for service: Anne F. Ackerley, Chief Executive Officer, BlackRock Apex Municipal Fund, Inc., 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: 04/30/2011

Date of reporting period: 07/31/2010

Item 1 Schedule of Investments

Schedule of Investments July 31, 2010 (Unaudited)

BlackRock Apex Municipal Fund, Inc. (APX)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Alabama 0.4%		
County of Jefferson Alabama, RB, Series A:		
5.25%, 1/01/13	\$ 435	\$ 417,617
5.25%, 1/01/17	365	331,957
		749,574
Alaska 1.0%		
Alaska Industrial Development & Export Authority, RB, Williams Lynxs Alaska Cargoport, AMT, 8.00%, 5/01/23	2,000	1,943,020
Arizona 3.7%		
Maricopa County IDA Arizona, RB, Series A:		
Arizona Charter Schools Project, 6.63%, 7/01/20	900	698,292
Sun King Apartments Project, 6.00%, 11/01/10	5	4,983
Phoenix IDA Arizona, Refunding RB, America West Airlines Inc. Project, AMT, 6.30%, 4/01/23	2,950	2,351,799
Pima County IDA, RB, Arizona Charter Schools Project, Series E, 7.25%, 7/01/31	935	939,638
Pima County IDA, Refunding IDRB, Tucson Electric Power, 5.75%, 9/01/29	460	469,922
Salt Verde Financial Corp., RB, Senior, 5.00%, 12/01/32	1,425	1,294,741
University Medical Center Corp. Arizona, RB, 6.25%, 7/01/29	540	579,231
Yavapai County IDA Arizona, RB, Yavapai Regional Medical Center, Series A, 6.00%, 8/01/33	500	504,220
		6,842,826
California 4.2%		
California Statewide Communities Development Authority, Refunding RB:		
American Baptist Homes of the West, 6.25%, 10/01/39	885	887,965
Senior Living, Southern California, 7.00%, 11/15/29	400	432,864
	1,440	1,569,816

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Senior Living, Southern California,
7.25%, 11/15/41

Municipal Bonds	Par (000)	Value
California (concluded)		
City of Fontana California, Special Tax Bonds, Refunding, Community Facilities District No. 22-Sierra, Series H, 6.00%, 9/01/34	\$ 1,000	\$ 970,230
State of California, GO: 4.50%, 10/01/36	1,755	1,564,196
Various Purpose, 6.00%, 3/01/33	2,120	2,294,900
		<u>7,719,971</u>
Colorado 2.9%		
Elk Valley Public Improvement Corp., RB, Public Improvement Fee, Series A, 7.30%, 9/01/22	2,800	2,775,864
Plaza Metropolitan District No. 1 Colorado, Tax Allocation Bonds, Tax Increment: Public Improvement Fee, 8.00%, 12/01/25	2,000	2,080,560
Subordinate 8.13%, 12/01/25	500	457,670
		<u>5,314,094</u>
Connecticut 2.3%		
Harbor Point Infrastructure Improvement District, Tax Allocation Bonds, Harbor Point Project, Series A, 7.88%, 4/01/39	1,610	1,706,729
Mohegan Tribe of Indians of Connecticut, RB, Public Improvement, Priority Distribution: 6.25%, 1/01/31	1,785	1,467,680
5.25%, 1/01/33 (a)	1,500	1,078,575
		<u>4,252,984</u>
District of Columbia 2.3%		
District of Columbia, RB, Methodist Home District of Columbia, Series A: 7.38%, 1/01/30	680	692,335
7.50%, 1/01/39	1,110	1,131,123
District of Columbia Tobacco Settlement Financing Corp., Refunding RB, Asset-Backed, 6.50%, 5/15/33	730	699,829
Metropolitan Washington Airports Authority, RB, CAB, 2nd Senior Lien, Series B (AGC), 6.75%, 10/01/39 (b)	9,770	1,650,544
		<u>4,173,831</u>

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:

ACA	ACA Financial Guaranty Corp.
AGC	Assured Guaranty Corp.
AMBAC	American Municipal Bond Assurance Corp.
AMT	Alternative Minimum Tax (subject to)
CAB	Capital Appreciation Bonds
EDA	Economic Development Authority
EDC	Economic Development Corp.
ERB	Education Revenue Bonds
GO	General Obligation Bonds
HDA	Housing Development Authority
IDA	Industrial Development Authority
IDRB	Industrial Development Revenue Bonds
MRB	Mortgage Revenue Bonds
NPFGC	National Public Finance Guarantee Corp.
RB	Revenue Bonds
TE	Tax Exempt
TIF	Tax Increment Financing

BLACKROCK APEX MUNICIPAL FUND, INC.

JULY 31, 2010

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Schedule of Investments (continued)

BlackRock Apex Municipal Fund, Inc. (APX)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Florida 9.1%		
County of Miami-Dade Florida, Refunding RB, Miami International Airport, Series A-1, 5.38%, 10/01/41	\$ 360	\$ 366,322
Hillsborough County IDA, RB, AMT, National Gypsum Co.:		
Series A, 7.13%, 4/01/30	2,500	2,361,200
Series B, 7.13%, 4/01/30	1,560	1,473,389
Jacksonville Economic Development Commission, RB, Gerdau Ameristeel US Inc., AMT, 5.30%, 5/01/37	900	735,309
Jacksonville Economic Development Commission, Refunding RB, Florida Proton Therapy Institute, Series A, 6.00%, 9/01/17	840	863,831
Lee County IDA Florida, RB, Series A, Lee Charter Foundation, 5.38%, 6/15/37	1,810	1,489,594
Midtown Miami Community Development District, Special Assessment Bonds, Series A:		
6.00%, 5/01/24	1,370	1,336,079
6.25%, 5/01/37	1,350	1,295,743
Santa Rosa Bay Bridge Authority, RB, 6.25%, 7/01/28	2,140	1,169,617
Sarasota County Health Facilities Authority, Refunding RB, Village On The Isle Project:		
5.50%, 1/01/27	590	543,803
5.50%, 1/01/32	550	496,238
Sumter Landing Community Development District Florida, RB, Sub-Series B, 5.70%, 10/01/38	1,615	1,311,073
Tampa Palms Open Space & Transportation Community Development District, RB, Capital Improvement, Richmond Place Project, 7.50%, 5/01/18	1,905	1,905,533
Tolomato Community Development District, Special Assessment Bonds, Special Assessment, 6.65%, 5/01/40	1,850	1,521,532
		<u>16,869,263</u>
Georgia 4.0%		
City of Atlanta Georgia, Tax Allocation Bonds, Princeton Lakes Project, 5.50%, 1/01/31	395	353,126
	1,375	1,484,395

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Clayton County Development Authority, RB, Delta Air Lines Inc. Project, Series A, 8.75%, 6/01/29		
County of Clayton Georgia, Tax Allocation Bonds, Ellenwood Project, 7.50%, 7/01/33	1,335	1,288,288
DeKalb County Hospital Authority Georgia, RB, DeKalb Medical Center Inc. Project, 6.13%, 9/01/40	1,805	1,820,415
Gainesville & Hall County Development Authority, Refunding RB, Acts Retirement Life Community, Series A-2, 6.63%, 11/15/39	645	673,786
Rockdale County Development Authority, RB, Visy Paper Project, Series A, AMT, 6.13%, 1/01/34	1,680	1,578,948
	Par (000)	Value
Municipal Bonds		
Georgia (concluded)		
Thomasville Hospital Authority, RB, Anticipation Certificates, John D. Archbold, 5.38%, 11/01/40	\$ 155	\$ 153,500
		<u>7,352,458</u>
Guam 1.5%		
Guam Government Waterworks Authority, Refunding RB, Water, 6.00%, 7/01/25	515	526,943
Territory of Guam, GO, Series A: 6.00%, 11/15/19	250	259,620
6.75%, 11/15/29	440	471,772
7.00%, 11/15/39	455	492,046
Territory of Guam, RB, Section 30, Series A, 5.63%, 12/01/29	1,000	1,028,060
		<u>2,778,441</u>
Illinois 5.7%		
City of Chicago Illinois, Refunding RB, American Airlines Inc. Project, 5.50%, 12/01/30	2,860	2,120,862
Illinois Finance Authority, RB: Roosevelt University Project, 6.50%, 4/01/44	1,700	1,776,160
Rush University Medical Center Obligation Group, Series A, 7.25%, 11/01/30	2,000	2,287,940
Illinois Finance Authority, Refunding RB: CAB, Clare Water Tower, Series B, 0.42%, 5/15/50 (b)	615	7,152
Clare Water Tower, Series A-7, 6.13%, 5/15/41	1,435	933,324
Friendship Village of Schaumburg, 7.25%, 2/15/45	1,630	1,638,818
Primary Health Care Centers Program, 6.60%, 7/01/24	490	441,098
	755	664,823

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Village of Lincolnshire Illinois, Special
Tax Bonds, Sedgebrook Project,
6.25%, 3/01/34

Village of Wheeling Illinois, Tax
Allocation Bonds, North

Milwaukee/Lake-Cook TIF Project,
6.00%, 1/01/25

750 696,008

10,566,185

Indiana 1.2%

Indiana Finance Authority, Refunding
RB, Improvement, U.S. Steel Corp.,
6.00%, 12/01/26

620 635,252

Indiana Health & Educational Facilities
Financing Authority, Refunding RB,
Community Foundation Northwest
Indiana, 5.50%, 3/01/37

700 692,251

Vigo County Hospital Authority Indiana,
RB, Union Hospital Inc. (a):

5.70%, 9/01/37 440 404,809

5.75%, 9/01/42 545 500,397

2,232,709

Kentucky 0.4%

Kentucky Economic Development
Finance Authority, Refunding RB,
Owensboro Medical Health System,
Series A, 6.38%, 6/01/40

645 671,948

Schedule of Investments (continued)

BlackRock Apex Municipal Fund, Inc. (APX)
(Percenages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Louisiana 1.1%		
Louisiana Local Government Environmental Facilities & Community Development Authority, RB, Westlake Chemical Corp. Projects, 6.75%, 11/01/32	\$ 2,000	\$ 2,068,520
Maryland 1.8%		
Maryland EDC, RB, Transportation Facilities Project, Series A, 5.75%, 6/01/35	420	429,459
Maryland Health & Higher Educational Facilities Authority, RB, Washington Christian Academy, 5.50%, 7/01/38	410	176,300
Maryland Health & Higher Educational Facilities Authority, Refunding RB, Doctor s Community Hospital, 5.75%, 7/01/38	1,265	1,215,728
Maryland State Energy Financing Administration, RB, Cogeneration, AES Warrior Run, AMT, 7.40%, 9/01/19	1,500	1,500,600
		<u>3,322,087</u>
Massachusetts 1.4%		
Massachusetts Development Finance Agency, RB, First Mortgage, Overlook Communities, Series A, 6.25%, 7/01/34	1,845	1,611,349
Massachusetts Development Finance Agency, Refunding RB, Eastern Nazarene College, 5.63%, 4/01/19	190	181,636
Massachusetts Health & Educational Facilities Authority, RB, Jordan Hospital, Series E, 6.75%, 10/01/33	850	848,411
		<u>2,641,396</u>
Michigan 2.7%		
Advanced Technology Academy, RB, 6.00%, 11/01/37	625	570,462
County of Wayne Michigan, GO, Building Improvement, Series A, 6.75%, 11/01/39	375	397,868
Monroe County Hospital Finance Authority, Refunding RB, Mercy Memorial Hospital Corp. Obligation, 5.50%, 6/01/35	1,260	1,055,552

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Royal Oak Hospital Finance Authority
Michigan, Refunding RB, William
Beaumont Hospital, 8.25%, 9/01/39

2,575 3,074,756

5,098,638

Missouri 1.0%

Kansas City IDA Missouri, RB, First
Mortgage, Bishop Spencer, Series A,
6.50%, 1/01/35

1,000 902,040

Kirkwood IDA Missouri, RB, Aberdeen
Heights, Series A, 8.25%, 5/15/39

945 967,075

1,869,115

Multi-State 0.3%

MuniMae TE Bond Subsidiary LLC,
7.50%, 6/30/49 (a)(c)(d)

663 614,575

Municipal Bonds	Par (000)	Value
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Nevada 0.2%

County of Clark Nevada, Special
Assessment Bonds, Special
Improvement District No. 142, Local
Improvement, 6.38%, 8/01/23

\$ 370 \$ 355,337

New Hampshire 0.4%

New Hampshire Health & Education
Facilities Authority, RB, Catholic
Medical Center, 5.00%, 7/01/36

835 720,956

New Jersey 7.5%

New Jersey EDA, RB, Continental
Airlines Inc. Project, AMT:
6.63%, 9/15/12

3,050 3,095,658

6.25%, 9/15/29

1,000 952,300

New Jersey EDA, Refunding RB, Newark
Airport Marriott Hotel, 7.00%,
10/01/14

1,500 1,506,810

New Jersey Educational Facilities
Authority, Refunding RB, University of
Medicine & Dentistry, Series B:

7.13%, 12/01/23

670 787,491

7.50%, 12/01/32

1,065 1,222,833

New Jersey Health Care Facilities
Financing Authority, RB, Pascack
Valley Hospital Association, 6.63%,
7/01/36 (e)(f)

1,870 19

New Jersey Health Care Facilities
Financing Authority, Refunding RB,
St. Joseph's Healthcare System,
6.63%, 7/01/38

1,680 1,744,243

New Jersey Transportation Trust Fund
Authority, RB, CAB, Transportation
System, Series C (AMBAC), 5.05%,
12/15/35 (b)

2,760 618,820

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Tobacco Settlement Financing Corp.

New Jersey, Refunding RB, Series 1A:

4.50%, 6/01/23	2,965	2,714,843
5.00%, 6/01/41	2,080	1,364,168

14,007,185

New York 6.4%

Brooklyn Arena Local Development

Corp., RB, Barclays Center Project,

6.38%, 7/15/43	685	702,570
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Chautauqua County Industrial

Development Agency, RB, NRG

Dunkirk Power Project, 5.88%,

4/01/42	1,710	1,754,169
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Dutchess County Industrial

Development Agency New York, RB,

St. Francis Hospital, Series B, 7.50%,

3/01/29	1,000	997,520
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Metropolitan Transportation Authority,

RB, Series 2008-C, 6.50%, 11/15/28

New York City Industrial Development	2,000	2,334,380
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Agency, RB:

American Airlines Inc., JFK

International Airport, AMT, 8.00%,

8/01/28 (d)	720	755,424
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British Airways Plc Project, AMT,

7.63%, 12/01/32	1,730	1,748,926
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Series C, 6.80%, 6/01/28	350	367,763
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BLACKROCK APEX MUNICIPAL FUND, INC.

JULY 31, 2010

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Schedule of Investments (continued)

BlackRock Apex Municipal Fund, Inc. (APX)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
New York (concluded)		
New York City Industrial Development Agency, RB: (concluded) Special Needs Facilities Pooled Program, Series C-1, 6.50%, 7/01/24	\$ 830	\$ 793,688
New York Liberty Development Corp., RB, National Sports Museum Project, Series A, 6.13%, 2/15/19 (e)(f)	630	6
New York Liberty Development Corp., Refunding RB, Second Priority, Bank of America Tower at One Bryant Park Project, 6.38%, 7/15/49	520	543,442
New York State Dormitory Authority, RB, North Shore-Long Island Jewish Health System, Series A, 5.50%, 5/01/37	1,000	1,033,580
Yonkers Industrial Development Agency New York, RB, Sarah Lawrence College Project, Series A, 6.00%, 6/01/41	850	890,868
		<u>11,922,336</u>
North Carolina 1.7%		
North Carolina Medical Care Commission, Refunding RB, First Mortgage, Deerfield, Series A, 6.13%, 11/01/38	3,230	3,238,947
Ohio 1.6%		
Buckeye Tobacco Settlement Financing Authority, RB, Asset-Backed, Senior Series A-2: 5.13%, 6/01/24	1,110	927,327
6.50%, 6/01/47	2,685	2,082,271
		<u>3,009,598</u>
Pennsylvania 7.2%		
Allegheny County Hospital Development Authority, Refunding RB, Health System, West Penn, Series A, 5.38%, 11/15/40	2,885	2,141,593
Bucks County IDA, RB, Ann's Choice Inc. Facility, Series A, 6.13%, 1/01/25	1,160	1,138,726
Cumberland County Municipal Authority, RB, Diakon Lutheran, 6.38%, 1/01/39	2,510	2,576,364

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Lancaster County Hospital Authority, RB, Brethren Village Project, Series A:		
6.25%, 7/01/26	475	478,145
6.50%, 7/01/40	675	659,313
Montgomery County IDA Pennsylvania, MRB, Whitmarsh Continuing Care, 6.25%, 2/01/35	1,700	1,374,841
Pennsylvania Higher Educational Facilities Authority, Refunding RB, Allegheny Delaware Valley Obligation, Series A (NPFGC), 5.88%, 11/15/21	470	458,419
Philadelphia Authority for Industrial Development, RB, AMT: Commercial Development, 7.75%, 12/01/17	3,000	3,003,540

Municipal Bonds	Par (000)	Value
Pennsylvania (concluded)		
Philadelphia Authority for Industrial Development, RB, AMT: (concluded) Subordinate, Air Cargo, Series A, 7.50%, 1/01/25	\$ 1,600	\$ 1,551,872
		13,382,813
Puerto Rico 1.1%		
Puerto Rico Public Buildings Authority, Refunding RB, Series Q, 5.63%, 7/01/39	985	1,007,468
Puerto Rico Sales Tax Financing Corp., RB, First Sub-Series A, 6.50%, 8/01/44	1,000	1,108,440
		2,115,908
Rhode Island 0.8%		
Central Falls Detention Facility Corp., Refunding RB, 7.25%, 7/15/35	1,750	1,507,187
South Carolina 0.4%		
Connector 2000 Association Inc., RB, CAB, Senior Series B, 10.61%, 1/01/14 (b)(e)(f)	1,075	144,373
South Carolina Jobs-EDA, Refunding RB, Palmetto Health, 5.50%, 8/01/26	670	677,296
		821,669
Tennessee 0.1%		
Shelby County Health Educational & Housing Facilities Board, RB, Village at Germantown, 6.25%, 12/01/34	245	212,528
Texas 11.1%		
Bexar County Health Facilities Development Corp., RB, Army	2,055	2,089,873

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Retirement Residence Project, 6.20%, 7/01/45		
Brazos River Authority, Refunding RB, Texas Utility Co., Series, AMT, 7.70%, 4/01/33	2,530	1,347,301
Central Texas Regional Mobility Authority, RB:		
CAB, 7.48%, 1/01/28 (b)	1,000	329,830
CAB, 7.78%, 1/01/33 (b)	2,150	487,469
CAB, 7.79%, 1/01/34 (b)	4,000	852,680
Senior Lien, 5.75%, 1/01/25	450	457,830
City of Houston Texas, RB, Special Facilities, Continental Airlines, Series E, AMT, 6.75%, 7/01/21	1,865	1,855,619
Danbury Higher Education Authority Inc., RB, A.W. Brown Fellowship Charter, Series A (ACA), 5.13%, 8/15/36	1,000	1,168,690
Harris County Health Facilities Development Corp., Refunding RB, Memorial Hermann Healthcare System, Series B, 7.25%, 12/01/35	1,110	1,263,036
Matagorda County Navigation District No. 1 Texas, Refunding RB, Central Power & Light Co. Project, Series A, 6.30%, 11/01/29	850	927,401
North Texas Tollway Authority, RB, Toll, 2nd Tier, Series F, 6.13%, 1/01/31	1,650	1,758,834
Tarrant County Cultural Education Facilities Finance Corp., RB: CC Young Memorial Home, Series A, 8.00%, 2/15/38	710	743,697

Schedule of Investments (continued)

BlackRock Apex Municipal Fund, Inc. (APX)
(Percentages shown are based on Net Assets)

Municipal Bonds	Par (000)	Value
Texas (concluded)		
Tarrant County Cultural Education Facilities Finance Corp., RB: (concluded)		
Senior Living Center Project, Series A, 8.25%, 11/15/44	\$ 1,710	\$ 1,714,036
Texas Private Activity Bond Surface Transportation Corp., RB, Senior Lien,		
LBJ Infrastructure, 7.00%, 6/30/40	1,815	1,888,235
Note Mobility, 6.88%, 12/31/39	1,605	1,665,765
Texas State Public Finance Authority, Refunding ERB, KIPP Inc., Series A (ACA), 5.00%, 2/15/28	2,250	2,069,685
		<u>20,619,981</u>
U.S. Virgin Islands 1.2%		
United States Virgin Islands, Refunding RB, Senior Secured, Hovensa Coker Project, AMT, 6.50%, 7/01/21	2,100	2,132,382
Utah 1.2%		
County of Carbon Utah, Refunding RB, Laidlaw Environmental, Series A, AMT, 7.45%, 7/01/17	2,240	2,244,592
Virginia 2.6%		
Dulles Town Center Community Development Authority, Special Assessment Bonds, Dulles Town Center Project, 6.25%, 3/01/26	2,330	2,240,225
Tobacco Settlement Financing Corp. Virginia, Refunding RB, Senior Series B-1, 5.00%, 6/01/47	4,040	2,615,375
		<u>4,855,600</u>
Wisconsin 2.3%		
Wisconsin Health & Educational Facilities Authority, RB: New Castle Place Project, Series A, 7.00%, 12/01/31	1,320	1,318,376
Wheaton Franciscan Healthcare, 5.25%, 8/15/34	2,540	2,320,138
Wisconsin Health & Educational Facilities Authority, Refunding RB, St. John's Communities Inc., Series A: 7.25%, 9/15/29	175	180,574

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7.63%, 9/15/39	350	366,254
		4,185,342

Wyoming 1.3%

County of Sweetwater Wyoming, Refunding RB, FMC Corp. Project, AMT, 5.60%, 12/01/35	2,500	2,449,100
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Total Municipal Bonds 94.1%		174,863,096
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**Municipal Bonds Transferred to Tender
Option Bond Trusts (g)**

District of Columbia 1.7%

District of Columbia Water & Sewer Authority, RB, Series A, 6.00%, 10/01/35	2,730	3,085,265
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**Municipal Bonds Transferred to Tender
Option Bond Trusts (g)**

**Par
(000)**

Value

Florida 3.3%

County of Miami-Dade Florida, RB, Miami International Airport, Series A, AMT (AGC), 5.25%, 10/01/33	\$ 6,130	\$ 6,157,830
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Virginia 3.1%

Virginia HDA, RB, Sub-Series H-1 (NPFGC), 5.38%, 7/01/36	5,710	5,823,058
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Total Municipal Bonds Transferred to Tender Option Bond Trusts 8.1%		15,066,153
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Total Long-Term Investments (Cost \$190,267,683) 102.2%		189,929,249
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Short-Term Securities

Shares

FFI Institutional Tax-Exempt Fund, 0.21% (h)(i)	1,559,574	1,559,574
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Total Short-Term Securities (Cost \$1,559,574) 0.8%		1,559,574
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Total Investments (Cost \$191,827,257*) 103.0%		191,488,823
Other Assets Less Liabilities 0.9%		1,641,959
		(7,291,389)

**Liability for Trust Certificates, Including Interest
Expense and Fees Payable (3.9)%**

Net Assets	100.0%	\$ 185,839,393
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* The cost and unrealized appreciation (depreciation) of investments as of July 31, 2010, as computed for federal income tax purposes, were as follows:

Aggregate cost	\$ 184,556,603
Gross unrealized appreciation	\$ 10,527,015
Gross unrealized depreciation	(10,880,241)
Net unrealized depreciation	\$ (353,226)

- (a) Security exempt from registration under Rule 144A of the Securities Act of 1933. These securities may be resold in transactions exempt from registration to qualified institutional investors.
- (b) Represents a zero-coupon bond. Rate shown reflects the current yield as of report date.
- (c) Security represents a beneficial interest in a trust. The collateral deposited into the trust is federally tax-exempt revenue bonds issued by various state or local governments, or their respective agencies or authorities. The security is subject to remarketing prior to its stated maturity.
- (d) Variable rate security. Rate shown is as of report date.
- (e) Issuer filed for bankruptcy and/or is in default of interest payments.
- (f) Non-income producing security.
- (g) Securities represent bonds transferred to a tender option bond trust in exchange for which the Fund acquired residual interest certificates. These securities serve as collateral in a financing transaction.

BLACKROCK APEX MUNICIPAL FUND, INC.

JULY 31, 2010

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Schedule of Investments July 31, 2010 (Unaudited)

BlackRock Apex Municipal Fund, Inc. (APX)

- (h) 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 at April 30, 2010	Net Activity	Shares at July 31, 2010	Income
FFI Institutional Tax-Exempt Fund	648,958	910,616	1,559,574	\$ 681

- (i) Represents the current yield as of report date.

Fair Value Measurements - Various inputs are used in determining the fair value of investments, which are as follows:

Level 1 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)

The inputs or methodologies used for valuing securities are not necessarily an indication of the risk associated with investing in those securities. For information about the Fund's policy regarding valuation of investments and other significant accounting policies, please refer to the Fund's most recent financial statements as contained in its annual report.

The following table summarizes the inputs used as of July 31, 2010 in determining the fair valuation of the Fund's investments:

Valuation Inputs	Level 1	Level 2	Level 3	Total
Assets:				
Investments in Securities:				
Long-Term Investments ¹		\$ 189,929,249		\$ 189,929,249
Short-Term Securities	\$ 1,559,574			1,559,574
Total	\$ 1,559,574	\$ 189,929,249		\$ 191,488,823

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

BLACKROCK APEX MUNICIPAL FUND, INC.

JULY 31, 2010

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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 Apex Municipal Fund, Inc.

By: /s/ Anne F. Ackerley
Anne F. Ackerley
Chief Executive Officer of
BlackRock Apex Municipal Fund, Inc.

Date: September 27, 2010

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/ Anne F. Ackerley
Anne F. Ackerley
Chief Executive Officer (principal executive officer) of
BlackRock Apex Municipal Fund, Inc.

Date: September 27, 2010

By: /s/ Neal J. Andrews
Neal J. Andrews
Chief Financial Officer (principal financial officer) of
BlackRock Apex Municipal Fund, Inc.

Date: September 27, 2010