

PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST

Form NSAR-B

May 29, 2008

PAGE 1
000 B000000 03/31/2008
000 C000000 1258943
000 D000000 N
000 E000000 NF
000 F000000 Y
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000 H000000 N
000 I000000 6.1
000 J000000 A
001 A000000 PIONEER MUNICIPAL HIGH INCOME ADVANTAGE TRUST
001 B000000 811-21409
001 C000000 6177427825
002 A000000 60 STATE STREET
002 B000000 BOSTON
002 C000000 MA
002 D010000 02109
003 000000 N
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007 C010100 1
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007 C010300 3
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007 C010600 6
007 C010700 7
007 C010800 8
007 C010900 9
007 C011000 10
008 A000001 PIONEER INVESTMENT MANAGEMENT, INC.
008 B000001 A
008 C000001 801-8255
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008 D030001 02109
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010 B000001 801-8255
010 C010001 BOSTON
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010 A000002 PRINCETON ADMINISTRATORS, LLC
010 C010002 PRINCETON
010 C020002 NJ
010 C030002 08543
010 C040002 9095
011 A000001 PIONEER FUNDS DISTRIBUTOR, INC.
011 B000001 8-12345678
011 C010001 BOSTON
PAGE 2
011 C020001 MA
011 C030001 02109
011 C040001 1820
011 A000002 UBS INVESTMENT BANK
011 B000002 8-022651
011 C010002 STAMFORD

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011 C020002 CT
011 C030002 06901
011 A000003 RBC CAPITAL MARKETS CORP.
011 B000003 8-045411
011 C010003 MINNEAPOLIS
011 C020003 MN
011 C030003 55402
011 C040003 4422
011 A000004 MERRILL LYNCH & CO.
011 B000004 8-7221
011 C010004 NEW YORK
011 C020004 NY
011 C030004 10281
011 C040004 1201
011 A000005 JANNEY MONTGOMERY SCOTT, LLC
011 B000005 8-462
011 C010005 PHILADELPHIA
011 C020005 PA
011 C030005 19103
011 C040005 1675
011 A000006 WACHOVIA CAPITAL MARKETS, LLC
011 B000006 8-99999
011 C010006 RICHMOND
011 C020006 VA
011 C030006 23219
012 A000001 PIONEER INVEST. MGMT. SHAREHOLDER SVCS., INC.
012 B000001 85-01359
012 C010001 BOSTON
012 C020001 MA
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012 A000002 AMERICAN STOCK TRANSFER & TRUST CO.
012 B000002 85-00000
012 C010002 BROOKLYN
012 C020002 NY
012 C030002 11219
012 A000003 DEUTSCHE BANK TRUST COMPANY AMERICAS (PREF.)
012 B000003 85-00000
012 C010003 NEW YORK CITY
012 C020003 NY
012 C030003 10005
013 A000001 ERNST & YOUNG, LLP
013 B010001 BOSTON
013 B020001 MA
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013 B040001 5072
PAGE 3
015 A000001 BROWN BROTHERS HARRIMAN & CO.
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022 A000001 BLACKROCK INVESTMENTS, INC.
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022 B000002 13-2518466
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022 A000003 CORBY CAPITAL MARKETS, INC.
022 B000003 52-1037969
022 C000003 5207
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022 A000004 FIRST TRYON SECURITIES, LLC
022 B000004 56-1986792
022 C000004 0
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022 A000005 CITIGROUP GLOBAL MARKETS, INC.
022 B000005 11-2418191
022 C000005 4635
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022 A000006 B.C. ZIEGLER & CO.
022 B000006 39-0727640
022 C000006 3395
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022 A000007 MORGAN KEEGAN & CO., INC.
022 B000007 64-0474907
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022 A000008 PIPER JAFFRAY & CO.
022 B000008 41-0953246
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022 A000009 DOUGHERTY & CO., LLC
022 B000009 41-1883794
022 C000009 2640
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022 A000010 BB&T INVESTMENT SERVICES, INC.
022 C000010 2487
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063 A000000 0
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068 A000000 N
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070 O010000 Y
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070 Q020000 N

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070 R010000 N
 070 R020000 N
 071 A000000 79416
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 071 C000000 483413

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 072 Z000000 29331
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 072CC010000 0
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 072DD010000 20247
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074 N000000 464474
 074 O000000 3175
 074 P000000 268
 074 Q000000 0

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074	R010000	0
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080	A000000	ICI MUTUAL INSURANCE CO.
080	C000000	45000
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086	F010000	0
086	F020000	0
087	A010000	COMMON STOCK

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087 A020000 723762100
087 A030000 MAV
087 B010000 PREFERRED STOCK - SERIES A
087 B020000 723762209
087 C010000 PREFERRED STOCK - SERIES B
087 C020000 723762308
088 A000000 N
088 B000000 N
088 C000000 N
088 D000000 Y
SIGNATURE MARY KELLERMANN
TITLE ACCOUNTING MANAGER