Wilshire

WILSHIRE ASSOCIATES

Wilshire Consulting

Employees' Retirement Fund of the City of Dallas

Investment Performance Analysis

September 30, 2018

Wilshire Consulting

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending September 30, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Global Equity Composite	0.77	4.09	5.35	11.13	13.34	8.18	8/31/12	10.27	255,938	7.12
Global Low Volatility Composite	1.25	5.69	4.65	9.75	12.21		6/30/15	9.85	373,236	10.38
Domestic Equity Composite	-0.73	5.48	8.85	15.72	16.73	13.10	12/31/89	10.36	531,147	14.78
International Equity Composite	0.12	0.35	-4.15	0.39	10.82	5.28	12/31/89	5.64	505,996	14.08
Global Fixed Income Composite	-0.38	0.01	-1.33	-0.68	2.06	2.79	9/30/95	4.91	475,960	13.24
High Yield Composite	0.54	2.19	1.98	2.35	6.80	4.97	12/31/96	6.54	362,908	10.10
Credit Opportunities Composite	1.15	1.86	0.92	2.29			1/31/16	7.87	184,248	5.13
Total Real Estate Composite	-1.07	0.56	2.71	4.46	6.18	8.82	12/31/89	6.56	401,573	11.17
Indices										
MSCI ACWI (N)	0.44	4.28	3.83	9.77	13.40	8.66	12/31/00	5.43		
Wilshire 5000	0.16	7.27	10.53	17.60	17.27	13.63	12/31/84	11.30		
Standard & Poor's 500	0.57	7.71	10.57	17.92	17.31	13.95	12/31/84	11.42		
MSCI ACWI X US IMI Index (N)	0.22	0.39	-3.27	1.78	10.14	4.39	5/31/94	5.02		
MSCI EAFE Index (N)	0.87	1.36	-1.43	2.74	9.23	4.42	12/31/84	8.68		
Bloomberg Aggregate	-0.64	0.02	-1.60	-1.22	1.31	2.16	12/31/84	6.75		
FTSE High Yield Cash Pay	0.59	2.36	2.66	3.18	8.04	5.17	12/31/88	8.05		
Wilshire Real Est. Secs	-2.72	0.73	2.35	4.11	7.52	9.58	12/31/84	9.01		
Alerian MLP Index	-1.57	6.57	5.90	4.89	4.43	-2.72	12/31/95	11.91		

Manager returns are net of fees.

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	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
MLP Composite	-1.81	5.92	10.14	9.77	6.33	1.89	12/31/11	7.05	261,294	7.27
Private Equity Composite	0.93	1.78	8.77	12.40	10.49	11.63	5/31/09	13.27	215,740	6.00
Managed Short Term Composite	0.15	0.49	1.30	1.58	0.83	0.51	12/31/89	2.96	26,634	0.74
Dallas Total Fund	-0.04	2.69	3.44	6.56	9.34	7.11	12/31/84	9.18	3,594,675	100.00
Policy Index	-0.07	3.24	3.41	6.49	9.30	6.74	12/31/84	9.78		
Indices										
MSCI ACWI (N)	0.44	4.28	3.83	9.77	13.40	8.66	12/31/00	5.43		
Wilshire 5000	0.16	7.27	10.53	17.60	17.27	13.63	12/31/84	11.30		
Standard & Poor's 500	0.57	7.71	10.57	17.92	17.31	13.95	12/31/84	11.42		
MSCI ACWI X US IMI Index (N)	0.22	0.39	-3.27	1.78	10.14	4.39	5/31/94	5.02		
MSCI EAFE Index (N)	0.87	1.36	-1.43	2.74	9.23	4.42	12/31/84	8.68		
Bloomberg Aggregate	-0.64	0.02	-1.60	-1.22	1.31	2.16	12/31/84	6.75		
FTSE High Yield Cash Pay	0.59	2.36	2.66	3.18	8.04	5.17	12/31/88	8.05		
Wilshire Real Est. Secs	-2.72	0.73	2.35	4.11	7.52	9.58	12/31/84	9.01		
Alerian MLP Index	-1.57	6.57	5.90	4.89	4.43	-2.72	12/31/95	11.91		

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Systematic Financial	-3.65	1.19	4.90	12.01	18.96	13.67	7/31/03	11.80	70,117	13.20
Russell 2000	-2.41	3.58	11.51	15.24	17.12	11.07	7/31/03	10.19		
Russell 2000 + 1.25%	-2.30	3.89	12.45	16.49	18.37	12.32	7/31/03	11.44		
Redwood Investments *	-2.15	5.38	9.98	14.54			9/30/16	14.54	36,041	6.79
Russell 2000 Growth	-2.34	5.52	15.76	21.06			9/30/16	21.02		
Russell 2000 Growth +1.50%	-2.22	5.90	16.88	22.56			9/30/16	22.52		
Channing Capital *	-1.84	3.03	5.98	8.43	13.87		11/30/13	8.21	36,222	6.82
Russell 2000 Value	-2.48	1.60	7.14	9.33	16.12		11/30/13	8.68		
Russell 2000 Value + 1.25%	-2.38	1.92	8.07	10.58	17.37		11/30/13	9.93		
Domestic Equity Small Cap Composite	-2.82	2.66	6.46	11.85	16.50	11.54	5/31/03	10.38	142,380	26.81
Indices										
Wilshire 5000	0.16	7.27	10.53	17.60	17.27	13.63	12/31/89	9.99		
Standard & Poor's 500	0.57	7.71	10.57	17.92	17.31	13.95	12/31/89	9.92		
Russell 2000	-2.41	3.58	11.51	15.24	17.12	11.07	12/31/89	9.92		
Russell 1000 Value	0.20	5.70	3.92	9.45	13.55	10.72	12/31/89	9.84		

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Smith Graham *	-2.15	2.44	5.05				12/31/17	5.05	71,852	13.53
Russell Mid Cap	-0.64	5.00	7.46				12/31/17	7.46		
Russell Mid Cap + 2%	-0.48	5.49	8.96				12/31/17	8.96		
T. Rowe Price	0.42	7.11	10.91	18.23	17.93	14.34	3/31/06	9.53	150,829	28.40
Standard & Poor's 500	0.57	7.71	10.57	17.92	17.31	13.95	3/31/06	8.98		
Standard & Poor's 500 + 1%	0.65	7.96	11.32	18.92	18.31	14.95	3/31/06	9.98		
Northern Trust S&P 500 (Lending)	0.58	7.73	10.58	17.92	17.33	13.98	12/31/94	10.23	166,087	31.27
Standard & Poor's 500	0.57	7.71	10.57	17.92	17.31	13.95	12/31/94	10.18		
Domestic Equity Composite	-0.73	5.48	8.85	15.72	16.73	13.10	12/31/89	10.36	531,147	100.00
Custom Benchmark	0.16	7.27	10.53	17.60	17.27	13.63	12/31/89	10.29		
Indices										
Wilshire 5000	0.16	7.27	10.53	17.60	17.27	13.63	12/31/89	9.99		
Standard & Poor's 500	0.57	7.71	10.57	17.92	17.31	13.95	12/31/89	9.92		
Russell 2000	-2.41	3.58	11.51	15.24	17.12	11.07	12/31/89	9.92		
Russell 1000 Value	0.20	5.70	3.92	9.45	13.55	10.72	12/31/89	9.84		

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For Periods Ending September 30, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Adelante Capital Management	-2.26	1.59	1.87	4.10	6.16	9.41	9/30/01	9.88	86,868	21.63
Wilshire Real Est. Secs	-2.72	0.73	2.35	4.11	7.52	9.58	9/30/01	10.31		
Wilshire Real Est. Secs +1%	-2.64	0.98	3.09	5.11	8.52	10.58	9/30/01	11.31		
CenterSquare	-2.36	1.32					5/31/18	5.96	85,159	21.21
Wilshire Real Est. Secs	-2.72	0.73					5/31/18	5.19		
REIT Composite	-2.31	1.45	2.49	4.56	6.41	9.18	9/30/01	10.01	172,027	42.84
Wilshire Real Est. Secs	-2.72	0.73	2.35	4.11	7.52	9.58	9/30/01	10.31		
Heitman America Real Estate Trust, LP	0.00	0.00	3.89	5.78	7.54	9.42	11/30/10	11.47	91,722	22.84
NCREIF ODCE NOF	0.00	0.00	3.86	5.78	7.18	9.32	11/30/10	10.99		
Invesco Core Real Estate USA, LLC	0.00	0.00	4.38	6.74	8.20	10.32	11/30/10	11.34	74,852	18.64
NCREIF ODCE NOF	0.00	0.00	3.86	5.78	7.18	9.32	11/30/10	10.99		
Invesco II	-0.43	-0.43	-0.41	-0.39	-0.53	-0.37	9/30/13	-0.37	62,972	15.68
Indices										
Wilshire REIT Index	-2.75	0.72	2.25	3.99	7.08	9.25	12/31/89	9.61		
NCREIF ODCE NOF	0.00	0.00	3.86	5.78	7.18	9.32	12/31/98	7.46		

Manager returns are net of fees. Private Core Real Estate manager information is preliminary as market values are not yet finalized by the manager.

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Investment Performance and Market Values

For Periods Ending September 30, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Private Core Real Estate Composite	-0.12	-0.12	2.83	4.34	5.88	8.46	9/30/10	10.18	229,546	57.16
Custom Benchmark	-0.09	-0.09	2.91	4.40	5.50	7.22	9/30/10	9.41		
Total Real Estate Composite	-1.07	0.56	2.71	4.46	6.18	8.82	12/31/89	6.56	401,573	100.00
Custom Benchmark	-1.41	0.34	2.78	4.42	6.68	8.63	12/31/89	8.63		
Indices										
Wilshire REIT Index	-2.75	0.72	2.25	3.99	7.08	9.25	12/31/89	9.61		
NCREIF ODCE NOF	0.00	0.00	3.86	5.78	7.18	9.32	12/31/98	7.46		

Manager returns are net of fees.

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Employees' Retirement Fund of the City of Dallas

Monthly Performance and Market Value Summary

Periods Ended 09/30/18

Wilshire

	Month-End Market Value	Commitment Value	Drawn Down Capital	Cash Distributions	Inception Date	IRR Since Inception	Multiple [3]
Hamilton Lane Secondary Fund II	2,188,704	25,000,000	22,848,181	26,183,409	Jul-09	8.8%	1.2
Hamilton Lane Secondary Fund III	14,092,664	30,000,000	17,762,479	14,434,456	Nov-12	21.6%	1.6
Hamilton Lane Secondary Fund IV	12,092,201	30,000,000	7,624,815	204,691	Mar-17	-.-	1.6
Hamilton Lane Fund VII Composite	32,144,034	50,000,000	42,992,714	25,183,868	Jan-10	7.1%	1.3
Hamilton Lane Fund VIII (Global)	21,487,075	30,000,000	16,078,923	2,568,375	Nov-12	12.9%	1.5
Hamilton Lane Cash	-	-	-	-	Aug-09	-.-	-.-
GCM Grosvenor - Partnership, L.P.	46,559,638	75,000,000	79,562,189	70,322,139	Jun-11	14.9%	1.5
GCM Grosvenor - Partnership II, L.P. (2014)	42,961,848	60,000,000	51,873,493	14,225,964	Jul-14	5.7%	1.1
GCM Grosvenor - Partnership II, L.P. (2015)	21,988,793	20,000,000	21,253,955	1,003,693	Dec-15	7.8%	1.1
GCM Grosvenor - Partnership II, L.P. (2017)	1,447,184	30,000,000	1,650,516		Jan-18	-.-	0.9
GCM Grosvenor Cash	-	-	-	-	Jun-11	-.-	-.-
Fairview Capital III *	20,777,530	40,000,000	20,164,365	1,630,828	Aug-15	8.8%	1.1
Total Private Equity Composite	**215,739,671**	**390,000,000**	**281,811,630**	**155,757,423**	**Jul-09**	**12.4%**	**1.3**
Public Market Equivalent (PME) [2]	**283,708,310**					**18.0%**	

* Next Generation Manager

[1] Total Value to Paid-in Capital ("TVPI") multiple calculation = *(market value + distributions) / capital called*

[2] The Public Market Equivalent (PME) approach creates a hypothetical investment vehicle that mimics the private equity composite cash flows. The performance difference between the PME vehicle and the private equity portfolio is determined by their net asset value (NAV) at the end of the benchmarking period. The performance of the "public market" is simulated using the monthly S&P 500 index returns, plus a 300 BPs annual hurdle rate.

[3] Private Equity cash account

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	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Acadian International	-0.91	-0.98	-4.67	-0.39	14.70	7.83	3/31/89	8.69	106,671	21.08
Custom Benchmark	-1.23	-1.51	-4.41	1.86	11.24	6.14	3/31/89	6.09		
Custom Benchmark + 2%	-1.07	-1.02	-2.91	3.86	13.24	8.14	3/31/89	8.09		
Ativo International *	0.27	1.18	0.56				12/31/17	0.56	35,638	7.04
MSCI EAFE Index (N)	0.87	1.36	-1.43				12/31/17	-1.43		
MSCI EAFE Index (N) + 2%	1.03	1.85	0.06				12/31/17	0.06		
AQR Capital Management	0.35	0.60	-4.86	-0.44	10.38	5.10	3/31/06	3.61	204,031	40.32
Custom Benchmark	0.46	0.71	-3.09	1.76	9.97	4.12	3/31/06	2.93		
Custom Benchmark + 1.5%	0.58	1.08	-1.97	3.26	11.47	5.62	3/31/06	4.43		
BlackRock ACWI Ex U.S.	0.50	0.74					5/31/18	-1.14	159,655	31.55
MSCI ACWI Ex U.S. (N)	0.46	0.71					5/31/18	-1.19		
Global Transition Account									1	0.00
International Equity Composite	0.12	0.35	-4.15	0.39	10.82	5.28	12/31/89	5.64	505,996	100.00
Custom Benchmark	0.22	0.39	-3.27	1.78	10.14	4.39	12/31/89	4.67		
Indices										
MSCI ACWI X US IMI Index (N)	0.22	0.39	-3.27	1.78	10.14	4.39	5/31/94	5.02		
MSCI ACWI ex US (N)	0.46	0.71	-3.09	1.76	9.97	4.12	12/31/98	4.91		
MSCI ACWI X US Small Cap (N)	-1.23	-1.51	-4.41	1.86	11.24	6.14	5/31/94	5.85		
MSCI EAFE Index (N)	0.87	1.36	-1.43	2.74	9.23	4.42	12/31/89	4.50		
MSCI Emerging Mkts (N)	-0.53	-1.09	-7.68	-0.81	12.36	3.61	12/31/98	9.06		

*Next Generation Manager. Manager returns are net of fees.

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Ariel Global *	1.16	5.31	6.68				12/31/17	6.68	109,598	42.82
MSCI ACWI (N)	0.44	4.28	3.83				12/31/17	3.83		
MSCI ACWI (N) + 1.5%	0.56	4.65	4.95				12/31/17	4.95		
Wellington	0.51	3.12	4.54	10.05	12.09	9.95	8/31/12	13.20	127,146	49.68
MSCI ACWI (N)	0.44	4.28	3.83	9.77	13.40	8.66	8/31/12	10.54		
MSCI ACWI (N) + 2%	0.60	4.77	5.32	11.77	15.40	10.66	8/31/12	12.54		
Northern Trust Global Equity	0.25	3.91	4.03	10.04	13.92		9/30/15	13.92	19,194	7.50
MSCI AC World IMI Index (N)	0.16	3.88	3.70	9.63	13.47		9/30/15	13.47		
Global Equity Composite	0.77	4.09	5.35	11.13	13.34	8.18	8/31/12	10.27	255,938	100.00
MSCI ACWI (N)	0.44	4.28	3.83	9.77	13.40	8.66	8/31/12	10.54		
Indices										
MSCI AC World IMI Index (N)	0.16	3.88	3.70	9.63	13.47	8.69	8/31/12	10.72		
MSCI ACWI (N)	0.44	4.28	3.83	9.77	13.40	8.66	8/31/12	10.54		

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Acadian Global Low Vol.	1.38	5.48	3.47	8.52	11.84		6/30/15	9.62	185,733	49.76
MSCI ACWI (N)	0.44	4.28	3.83	9.77	13.40		6/30/15	8.93		
MSCI ACWI (N) + 2%	0.60	4.77	5.32	11.77	15.40		6/30/15	10.93		
MSCI ACWI Min Vol (N)	1.06	5.77	5.44	10.46	11.98		6/30/15	9.50		
BlackRock Global Low Vol.	1.11	5.92	5.81	10.96	12.56		6/30/15	10.06	187,503	50.24
MSCI ACWI Min Vol (N)	1.06	5.77	5.44	10.46	11.98		6/30/15	9.50		
Global Low Volatility Composite	1.25	5.69	4.65	9.75	12.21		6/30/15	9.85	373,236	100.00
MSCI ACWI Min Vol (N)	1.06	5.77	5.44	10.46	11.98		6/30/15	9.50		
Indices										
MSCI ACWI Min Vol (N)	1.06	5.77	5.44	10.46	11.98	9.55	6/30/15	9.50		
MSCI ACWI (N)	0.44	4.28	3.83	9.77	13.40	8.66	6/30/15	8.93		

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Harvest Fund Advisors MLP	-1.78	6.17	10.89	10.50	5.98	1.61	12/31/11	6.39	130,740	50.04
Alerian MLP Index	-1.57	6.57	5.90	4.89	4.43	-2.72	12/31/11	1.51		
Alerian MLP Index + 1.5%	-1.44	6.94	7.02	6.39	5.93	-1.22	12/31/11	3.01		
Atlantic Trust CIBC	-1.83	5.67	9.41	9.05	6.69	1.49	12/31/11	7.31	130,554	49.96
Alerian MLP Index	-1.57	6.57	5.90	4.89	4.43	-2.72	12/31/11	1.51		
Alerian MLP Index + 1.5%	-1.44	6.94	7.02	6.39	5.93	-1.22	12/31/11	3.01		
MLP Composite	-1.81	5.92	10.14	9.77	6.33	1.89	12/31/11	7.05	261,294	100.00
Alerian MLP Index	-1.57	6.57	5.90	4.89	4.43	-2.72	12/31/11	1.51		
Indices										
Alerian MLP Index	-1.57	6.57	5.90	4.89	4.43	-2.72	12/31/11	1.51		
Standard & Poor's 500	0.57	7.71	10.57	17.92	17.31	13.95	12/31/11	15.66		

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	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Securian Asset Management	-0.47	0.28	-0.95	-0.27	2.54	3.24	6/30/07	4.39	204,521	42.97
Bloomberg Aggregate	-0.64	0.02	-1.60	-1.22	1.31	2.16	6/30/07	3.94		
Bloomberg Aggregate + 0.5%	-0.60	0.14	-1.22	-0.72	1.81	2.66	6/30/07	4.44		
Aberdeen Global Fixed Income	-0.25	-0.22	-2.04	-1.48	1.61	2.27	4/30/07	4.37	203,041	42.66
Bloomberg Aggregate	-0.64	0.02	-1.60	-1.22	1.31	2.16	4/30/07	3.78		
Bloomberg Aggregate + 0.5%	-0.60	0.14	-1.22	-0.72	1.81	2.66	4/30/07	4.28		
Garcia Hamilton *	-0.51	-0.08	-0.29	0.53	2.00		10/31/13	2.87	68,397	14.37
Bloomberg Aggregate	-0.64	0.02	-1.60	-1.22	1.31		10/31/13	2.03		
Bloomberg Aggregate + 0.5%	-0.60	0.14	-1.22	-0.72	1.81		10/31/13	2.53		
Global Fixed Income Composite	-0.38	0.01	-1.33	-0.68	2.06	2.79	9/30/95	4.91	475,960	100.00
Bloomberg Aggregate	-0.64	0.02	-1.60	-1.22	1.31	2.16	9/30/95	5.02		
Indices										
10 yr Treasury Bellwethers Index	-1.48	-1.09	-3.73	-3.97	-1.09	1.37	9/30/95	4.71		
Bloomberg Aggregate	-0.64	0.02	-1.60	-1.22	1.31	2.16	9/30/95	5.02		

* Next Generation Manager. Manager returns are net of fees.

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MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending September 30, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Neuberger Berman	1.15	1.86	0.92	2.29			1/31/16	7.87	184,248	100.00
Custom Benchmark	0.91	2.20	1.14	2.05			1/31/16	8.12		
Custom Benchmark + 1%	1.00	2.45	1.89	3.05			1/31/16	9.12		
Indices										
ML High Yield Master II Constrained	0.55	2.42	2.50	2.93	8.19	5.55	1/31/16	10.82		
S&P LSTA Leverage Loan Index	0.69	1.84	4.03	5.20	5.32	4.13	1/31/16	7.11		
JPM EMBI Global Diversified	1.51	2.30	-3.04	-1.93	6.03	5.38	1/31/16	6.39		

Manager returns are net of fees.

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MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending September 30, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Oaktree Capital Management	0.46	2.17	1.69	1.81	6.90	4.48	1/31/97	6.79	179,941	49.58
Citigroup HY Cash Pay Capped	0.58	2.33	2.60	3.16	7.90	5.10	1/31/97			
Citigroup High Yield Cash Pay	0.59	2.36	2.66	3.18	8.04	5.17	1/31/97	6.94		
Citigroup HY Cash Pay + 1%	0.68	2.61	3.41	4.18	9.04	6.17	1/31/97	7.94		
BlackRock	0.62	2.20	2.27	2.90	6.71	4.98	9/30/06	6.43	182,967	50.42
Citigroup HY Cash Pay Capped	0.58	2.33	2.60	3.16	7.90	5.10	9/30/06	6.95		
Citigroup High Yield Cash Pay	0.59	2.36	2.66	3.18	8.04	5.17	9/30/06	7.06		
Citigroup HY Cash Pay + 1%	0.68	2.61	3.41	4.18	9.04	6.17	9/30/06	8.06		
High Yield Composite	0.54	2.19	1.98	2.35	6.80	4.97	12/31/96	6.54	362,908	100.00
Citigroup High Yield Cash Pay	0.59	2.36	2.66	3.18	8.04	5.17	12/31/96	6.95		
Indices										
10 yr Treasury Bellwethers Index	-1.48	-1.09	-3.73	-3.97	-1.09	1.37	12/31/96	4.72		
91-Day Treasury Bill	0.15	0.49	1.30	1.58	0.84	0.52	12/31/96	2.21		
FTSE High Yield Cash Pay	0.59	2.36	2.66	3.18	8.04	5.17	12/31/96	6.92		

Manager returns are net of fees.

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MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending September 30, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Cash Account	0.15	0.49	1.30	1.58	0.83	0.51	12/31/87	3.33	26,634	100.00
Managed Short Term Composite	0.15	0.49	1.30	1.58	0.83	0.51	12/31/89	2.96	26,634	100.00
Indices										
91-Day Treasury Bill	0.15	0.49	1.30	1.58	0.84	0.52	12/31/89	2.97		

Manager returns are net of fees.

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