Wilshire

WILSHIRE ASSOCIATES

Wilshire Consulting

Employees' Retirement Fund of the City of Dallas

Investment Performance Analysis

July 31, 2018

Wilshire Consulting

MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending July 31, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Global Equity Composite	2.76	2.60	4.01	11.57	8.80	8.60	8/31/12	10.34	252,675	7.02
Global Low Volatility Composite	3.25	2.98	2.23	8.08	9.01		6/30/15	9.57	364,567	10.13
Domestic Equity Composite	3.07	6.77	6.37	16.65	12.27	12.81	12/31/89	10.33	533,414	14.82
International Equity Composite	2.23	-2.82	-2.35	5.57	7.40	6.71	12/31/89	5.75	517,460	14.38
Global Fixed Income Composite	0.05	0.47	-1.29	-0.16	2.20	2.88	9/30/95	4.95	475,932	13.22
High Yield Composite	1.00	1.19	0.80	1.91	4.91	4.79	12/31/96	6.53	358,697	9.97
Credit Opportunities Composite	1.70	1.29	0.77	3.54			1/31/16	8.35	183,979	5.11
Total Real Estate Composite	0.16	4.15	2.31	4.71	6.20	8.76	12/31/89	6.58	400,022	11.11
Indices										
MSCI ACWI (N)	3.02	2.59	2.57	10.96	8.95	9.04	12/31/00	5.41		
Wilshire 5000	3.47	7.01	6.61	16.44	12.48	12.94	12/31/84	11.24		
Standard & Poor's 500	3.72	6.88	6.47	16.24	12.52	13.13	12/31/84	11.35		
MSCI ACWI X US IMI Index (N)	2.15	-2.02	-1.57	6.17	6.38	5.92	5/31/94	5.13		
MSCI EAFE Index (N)	2.46	-1.07	-0.36	6.40	5.03	5.86	12/31/84	8.76		
Bloomberg Aggregate	0.02	0.61	-1.59	-0.80	1.49	2.25	12/31/84	6.78		
FTSE High Yield Cash Pay	1.06	1.52	1.35	2.67	5.86	4.94	12/31/88	8.05		
Wilshire Real Est. Secs	0.59	8.84	2.20	3.46	6.41	8.75	12/31/84	9.05		
Alerian MLP Index	6.58	10.23	5.91	0.40	-2.85	-2.77	12/31/95	12.00		

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	6.21	12.27	10.45	5.89	-1.79	1.96	12/31/11	7.28	281,709	7.83
Private Equity Composite	0.65	2.70	7.56	16.13	11.80	11.39	5/31/09	13.38	212,409	5.90
Managed Short Term Composite	0.16	0.48	0.97	1.43	0.73	0.45	12/31/89	2.96	18,417	0.51
Dallas Total Fund	2.02	2.89	2.77	7.33	6.79	7.33	12/31/84	9.20	3,599,282	100.00
Policy Index	2.27	3.04	2.43	6.43	6.34	6.88	12/31/84	9.80		
Indices										
MSCI ACWI (N)	3.02	2.59	2.57	10.96	8.95	9.04	12/31/00	5.41		
Wilshire 5000	3.47	7.01	6.61	16.44	12.48	12.94	12/31/84	11.24		
Standard & Poor's 500	3.72	6.88	6.47	16.24	12.52	13.13	12/31/84	11.35		
MSCI ACWI X US IMI Index (N)	2.15	-2.02	-1.57	6.17	6.38	5.92	5/31/94	5.13		
MSCI EAFE Index (N)	2.46	-1.07	-0.36	6.40	5.03	5.86	12/31/84	8.76		
Bloomberg Aggregate	0.02	0.61	-1.59	-0.80	1.49	2.25	12/31/84	6.78		
FTSE High Yield Cash Pay	1.06	1.52	1.35	2.67	5.86	4.94	12/31/88	8.05		
Wilshire Real Est. Secs	0.59	8.84	2.20	3.46	6.41	8.75	12/31/84	9.05		
Alerian MLP Index	6.58	10.23	5.91	0.40	-2.85	-2.77	12/31/95	12.00		

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Systematic Financial	1.73	7.15	5.46	19.46	15.87	14.51	7/31/03	11.98	70,490	13.21
Russell 2000	1.74	8.69	9.54	18.73	12.04	11.33	7/31/03	10.18		
Russell 2000 + 1.25%	1.85	9.00	10.27	19.98	13.29	12.58	7/31/03	11.43		
Redwood Investments *	-0.23	7.76	4.13	13.38			9/30/16	12.56	33,852	6.35
Russell 2000 Growth	1.72	8.97	11.58	22.91			9/30/16	20.70		
Russell 2000 Growth +1.50%	1.84	9.34	12.46	24.41			9/30/16	22.20		
Channing Capital *	3.30	6.35	6.26	13.45	10.27		11/30/13	8.58	36,317	6.81
Russell 2000 Value	1.77	8.34	7.31	14.37	12.92		11/30/13	9.04		
Russell 2000 Value + 1.25%	1.87	8.65	8.03	15.62	14.17		11/30/13	10.29		
Domestic Equity Small Cap Composite	1.60	7.12	5.35	16.54	11.87	12.30	5/31/03	10.43	140,659	26.37
Indices										
Wilshire 5000	3.47	7.01	6.61	16.44	12.48	12.94	12/31/89	9.92		
Standard & Poor's 500	3.72	6.88	6.47	16.24	12.52	13.13	12/31/89	9.84		
Russell 2000	1.74	8.69	9.54	18.73	12.04	11.33	12/31/89	9.92		
Russell 1000 Value	3.96	4.83	2.20	9.54	9.51	10.04	12/31/89	9.83		

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	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Smith Graham *	3.50	5.51	6.14				12/31/17	6.14	72,597	13.61
Russell Mid Cap	2.49	5.54	4.90				12/31/17	4.90		
Russell Mid Cap + 2%	2.66	6.04	6.06				12/31/17	6.06		
T. Rowe Price	3.54	6.82	7.21	16.80	13.29	13.77	3/31/06	9.36	145,802	27.33
Standard & Poor's 500	3.72	6.88	6.47	16.24	12.52	13.13	3/31/06	8.77		
Standard & Poor's 500 + 1%	3.80	7.13	7.06	17.24	13.52	14.13	3/31/06	9.77		
Northern Trust S&P 500 (Lending)	3.72	6.88	6.47	16.24	12.53	13.16	12/31/94	10.13	174,356	32.69
Standard & Poor's 500	3.72	6.88	6.47	16.24	12.52	13.13	12/31/94	10.08		
Domestic Equity Composite	3.07	6.77	6.37	16.65	12.27	12.81	12/31/89	10.33	533,414	100.00
Custom Benchmark	3.47	7.01	6.61	16.44	12.48	12.94	12/31/89	10.22		
Indices										
Wilshire 5000	3.47	7.01	6.61	16.44	12.48	12.94	12/31/89	9.92		
Standard & Poor's 500	3.72	6.88	6.47	16.24	12.52	13.13	12/31/89	9.84		
Russell 2000	1.74	8.69	9.54	18.73	12.04	11.33	12/31/89	9.92		
Russell 1000 Value	3.96	4.83	2.20	9.54	9.51	10.04	12/31/89	9.83		

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	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Adelante Capital Management	0.20	6.45	0.48	2.79	4.64	8.53	9/30/01	9.89	86,508	21.63
Wilshire Real Est. Secs	0.59	8.84	2.20	3.46	6.41	8.75	9/30/01	10.40		
Wilshire Real Est. Secs +1%	0.67	9.09	2.78	4.46	7.41	9.75	9/30/01	11.40		
CenterSquare	0.55						5/31/18	5.16	84,542	21.13
Wilshire Real Est. Secs	0.59						5/31/18	5.04		
REIT Composite	0.37	7.68	1.40	3.16	4.94	8.19	9/30/01	10.05	171,050	42.76
Wilshire Real Est. Secs	0.59	8.84	2.20	3.46	6.41	8.75	9/30/01	10.40		
Heitman America Real Estate Trust, LP	0.00	1.89	3.89	7.65	8.71	10.22	11/30/10	11.73	91,722	22.93
NCREIF ODCE NOF	0.00	1.85	3.86	7.51	8.39	10.04	11/30/10	11.24		
Invesco Core Real Estate USA, LLC	0.00	1.86	4.38	8.30	9.26	10.76	11/30/10	11.60	74,852	18.71
NCREIF ODCE NOF	0.00	1.85	3.86	7.51	8.39	10.04	11/30/10	11.24		
Invesco II	0.00	1.24	0.02	0.57	-0.38		9/30/13	-0.29	62,397	15.60
Indices										
Wilshire REIT Index	0.59	8.85	2.12	3.35	6.01	8.37	12/31/89	9.66		
NCREIF ODCE NOF	0.00	1.85	3.86	7.51	8.39	10.04	12/31/98	7.53		

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 July 31, 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	0.00	1.70	2.95	5.84	6.91	9.10	9/30/10	10.42	228,972	57.24
Custom Benchmark	0.00	1.72	3.01	5.96	6.46	7.95	9/30/10	9.64		
Total Real Estate Composite	0.16	4.15	2.31	4.71	6.20	8.76	12/31/89	6.58	400,022	100.00
Custom Benchmark	0.29	5.24	2.73	4.85	6.62	8.59	12/31/89	8.68		
Indices										
Wilshire REIT Index	0.59	8.85	2.12	3.35	6.01	8.37	12/31/89	9.66		
NCREIF ODCE NOF	0.00	1.85	3.86	7.51	8.39	10.04	12/31/98	7.53		

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 07/31/18

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	8.9%	1.2
Hamilton Lane Secondary Fund III	14,420,242	30,000,000	17,762,479	14,106,878	Nov-12	22.3%	1.6
Hamilton Lane Secondary Fund IV	11,903,033	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	7.3%	1.3
Hamilton Lane Fund VIII (Global)	21,487,075	30,000,000	16,078,923	2,568,375	Nov-12	13.5%	1.5
Hamilton Lane Cash	-	-	-	-	Aug-09	-.-	-.-
GCM Grosvenor - Partnership, L.P.	52,061,187	75,000,000	77,763,727	65,778,390	Jun-11	14.8%	1.5
GCM Grosvenor - Partnership II, L.P. (2014)	38,978,163	60,000,000	48,716,656	13,433,004	Jul-14	5.5%	1.1
GCM Grosvenor - Partnership II, L.P. (2015)	19,381,336	20,000,000	18,376,341	473,008	Dec-15	7.5%	1.1
GCM Grosvenor - Partnership II, L.P. (2017)	1,359,432	30,000,000	1,329,864		Jan-18	-.-	1.0
GCM Grosvenor Cash	-	-	-	-	Jun-11	-.-	-.-
Fairview Capital III *	18,486,225	40,000,000	17,691,866	1,630,828	Aug-15	10.7%	1.1
Total Private Equity Composite	**212,409,431**	**390,000,000**	**271,185,567**	**149,562,451**	**Jul-09**	**12.1%**	**1.3**
Public Market Equivalent (PME) [2]	**262,945,332**					**17.4%**	

* 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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	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Acadian International	0.89	-3.08	-2.87	7.44	12.35	9.73	3/31/89	8.81	108,693	21.01
Custom Benchmark	0.70	-3.04	-2.26	7.54	8.89	8.08	3/31/89	6.21		
Custom Benchmark + 2%	0.86	-2.54	-1.10	9.54	10.89	10.08	3/31/89	8.21		
Ativo International *	2.21	0.48	1.57				12/31/17	1.57	36,000	6.96
MSCI EAFE Index (N)	2.46	-1.07	-0.36				12/31/17	-0.36		
MSCI EAFE Index (N) + 2%	2.63	-0.57	0.81				12/31/17	0.81		
AQR Capital Management	2.82	-3.96	-2.77	4.52	7.29	6.37	3/31/06	3.84	210,505	40.68
Custom Benchmark	2.39	-1.85	-1.47	5.94	6.00	5.59	3/31/06	3.11		
Custom Benchmark + 1.5%	2.52	-1.48	-0.59	7.44	7.50	7.09	3/31/06	4.61		
BlackRock ACWI Ex U.S.	2.39						5/31/18	0.48	162,260	31.36
MSCI ACWI Ex U.S. (N)	2.39						5/31/18	0.47		
Global Transition Account									1	0.00
International Equity Composite	2.23	-2.82	-2.35	5.57	7.40	6.71	12/31/89	5.75	517,460	100.00
Custom Benchmark	2.15	-2.02	-1.57	6.17	6.38	5.92	12/31/89	4.77		
Indices										
MSCI ACWI X US IMI Index (N)	2.15	-2.02	-1.57	6.17	6.38	5.92	5/31/94	5.13		
MSCI ACWI ex US (N)	2.39	-1.85	-1.47	5.94	6.00	5.59	12/31/98	5.04		
MSCI ACWI X US Small Cap (N)	0.70	-3.04	-2.26	7.54	8.89	8.08	5/31/94	5.99		
MSCI EAFE Index (N)	2.46	-1.07	-0.36	6.40	5.03	5.86	12/31/89	4.57		
MSCI Emerging Mkts (N)	2.20	-5.52	-4.60	4.36	8.94	5.25	12/31/98	9.32		

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

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Ariel Global *	3.69	2.41	5.04				12/31/17	5.04	107,920	42.71
MSCI ACWI (N)	3.02	2.59	2.57				12/31/17	2.57		
MSCI ACWI (N) + 1.5%	3.14	2.96	3.44				12/31/17	3.44		
Wellington	2.00	2.66	3.41	9.83	7.77	10.38	8/31/12	13.39	125,774	49.78
MSCI ACWI (N)	3.02	2.59	2.57	10.96	8.95	9.04	8/31/12	10.63		
MSCI ACWI (N) + 2%	3.18	3.08	3.73	12.96	10.95	11.04	8/31/12	12.63		
Northern Trust Global Equity	2.76	2.83	2.87	11.60			9/30/15	14.34	18,981	7.51
MSCI AC World IMI Index (N)	2.77	2.56	2.59	11.17			9/30/15	13.88		
Global Equity Composite	2.76	2.60	4.01	11.57	8.80	8.60	8/31/12	10.34	252,675	100.00
MSCI ACWI (N)	3.02	2.59	2.57	10.96	8.95	9.04	8/31/12	10.63		
Indices										
MSCI AC World IMI Index (N)	2.77	2.56	2.59	11.17	9.12	9.14	8/31/12	10.84		
MSCI ACWI (N)	3.02	2.59	2.57	10.96	8.95	9.04	8/31/12	10.63		

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Acadian Global Low Vol.	3.38	2.32	1.41	6.95	8.75		6/30/15	9.44	182,034	49.93
MSCI ACWI (N)	3.02	2.59	2.57	10.96	8.95		6/30/15	9.00		
MSCI ACWI (N) + 2%	3.18	3.08	3.73	12.96	10.95		6/30/15	11.00		
MSCI ACWI Min Vol (N)	3.08	3.49	2.75	8.66	8.61		6/30/15	9.12		
BlackRock Global Low Vol.	3.12	3.61	3.02	9.18	9.24		6/30/15	9.67	182,533	50.07
MSCI ACWI Min Vol (N)	3.08	3.49	2.75	8.66	8.61		6/30/15	9.12		
Global Low Volatility Composite	3.25	2.98	2.23	8.08	9.01		6/30/15	9.57	364,567	100.00
MSCI ACWI Min Vol (N)	3.08	3.49	2.75	8.66	8.61		6/30/15	9.12		
Indices										
MSCI ACWI Min Vol (N)	3.08	3.49	2.75	8.66	8.61	9.05	6/30/15	9.12		
MSCI ACWI (N)	3.02	2.59	2.57	10.96	8.95	9.04	6/30/15	9.00		

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Harvest Fund Advisors MLP	6.54	12.69	11.28	7.10	-1.92	1.64	12/31/11	6.61	141,053	50.07
Alerian MLP Index	6.58	10.23	5.91	0.40	-2.85	-2.77	12/31/11	1.55		
Alerian MLP Index + 1.5%	6.71	10.61	6.78	1.90	-1.35	-1.27	12/31/11	3.05		
Atlantic Trust CIBC	5.88	11.86	9.63	4.71	-1.66	1.60	12/31/11	7.54	140,655	49.93
Alerian MLP Index	6.58	10.23	5.91	0.40	-2.85	-2.77	12/31/11	1.55		
Alerian MLP Index + 1.5%	6.71	10.61	6.78	1.90	-1.35	-1.27	12/31/11	3.05		
MLP Composite	6.21	12.27	10.45	5.89	-1.79	1.96	12/31/11	7.28	281,709	100.00
Alerian MLP Index	6.58	10.23	5.91	0.40	-2.85	-2.77	12/31/11	1.55		
Indices										
Alerian MLP Index	6.58	10.23	5.91	0.40	-2.85	-2.77	12/31/11	1.55		
Standard & Poor's 500	3.72	6.88	6.47	16.24	12.52	13.13	12/31/11	15.42		

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	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Securian Asset Management	0.02	0.53	-1.21	0.04	2.60	3.30	6/30/07	4.44	203,798	42.82
Bloomberg Aggregate	0.02	0.61	-1.59	-0.80	1.49	2.25	6/30/07	4.00		
Barclays Aggregate + 0.5%	0.07	0.74	-1.30	-0.30	1.99	2.75	6/30/07	4.50		
Aberdeen Global Fixed Income	0.16	0.36	-1.67	-0.71	1.83	2.40	4/30/07	4.47	203,815	42.82
Bloomberg Aggregate	0.02	0.61	-1.59	-0.80	1.49	2.25	4/30/07	3.84		
Barclays Aggregate + 0.5%	0.07	0.74	-1.30	-0.30	1.99	2.75	4/30/07	4.34		
Garcia Hamilton *	-0.20	0.63	-0.40	0.95	2.14		10/31/13	2.95	68,319	14.35
Bloomberg Aggregate	0.02	0.61	-1.59	-0.80	1.49		10/31/13	2.10		
Barclays Aggregate + 0.5%	0.07	0.74	-1.30	-0.30	1.99		10/31/13	2.60		
Global Fixed Income Composite	0.05	0.47	-1.29	-0.16	2.20	2.88	9/30/95	4.95	475,932	100.00
Bloomberg Aggregate	0.02	0.61	-1.59	-0.80	1.49	2.25	9/30/95	5.06		
Indices										
10 yr Treasury Bellwethers Index	-0.71	0.42	-3.36	-3.60	-0.45	1.47	9/30/95	4.76		
Bloomberg Aggregate	0.02	0.61	-1.59	-0.80	1.49	2.25	9/30/95	5.06		

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

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MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending July 31, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Neuberger Berman	1.70	1.29	0.77	3.54			1/31/16	8.35	183,979	100.00
Custom Benchmark	1.47	0.95	0.42	2.34			1/31/16	8.38		
Custom Benchmark + 1%	1.56	1.20	1.01	3.34			1/31/16	9.38		
Indices										
ML High Yield Master II Constrained	1.13	1.45	1.21	2.52	6.17	5.36	1/31/16	11.02		
S&P LSTA Leverage Loan Index	0.74	1.03	2.91	4.42	4.47	3.95	1/31/16	7.14		
JPM EMBI Global Diversified	2.55	0.38	-2.80	0.07	5.34	5.43	1/31/16	6.93		

Manager returns are net of fees.

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MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending July 31, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Oaktree Capital Management	0.90	1.09	0.43	1.05	4.82	4.22	1/31/97	6.78	177,693	49.54
Citigroup HY Cash Pay Capped	1.05	1.53	1.31	2.64	5.75	4.88	1/31/97			
Citigroup High Yield Cash Pay	1.06	1.52	1.35	2.67	5.86	4.94	1/31/97	6.93		
Citigroup HY Cash Pay + 1%	1.15	1.77	1.93	3.67	6.86	5.94	1/31/97	7.93		
BlackRock	1.10	1.29	1.17	2.77	4.99	4.87	9/30/06	6.42	181,005	50.46
Citigroup HY Cash Pay Capped	1.05	1.53	1.31	2.64	5.75	4.88	9/30/06	6.94		
Citigroup High Yield Cash Pay	1.06	1.52	1.35	2.67	5.86	4.94	9/30/06	7.04		
Citigroup HY Cash Pay + 1%	1.15	1.77	1.93	3.67	6.86	5.94	9/30/06	8.04		
High Yield Composite	1.00	1.19	0.80	1.91	4.91	4.79	12/31/96	6.53	358,697	100.00
Citigroup High Yield Cash Pay	1.06	1.52	1.35	2.67	5.86	4.94	12/31/96	6.94		
Indices										
10 yr Treasury Bellwethers Index	-0.71	0.42	-3.36	-3.60	-0.45	1.47	12/31/96	4.77		
91-Day Treasury Bill	0.16	0.48	0.97	1.43	0.73	0.45	12/31/96	2.21		
FTSE High Yield Cash Pay	1.06	1.52	1.35	2.67	5.86	4.94	12/31/96	6.91		

Manager returns are net of fees.

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MONTHLY SUMMARY

Investment Performance and Market Values

For Periods Ending July 31, 2018

	Returns								Market Value	
	Month	3 Months	CYTD	1 Year	3 Years	5 Years	Inception Date	Inception Return	$(000)	Percent
Cash Account	0.16	0.48	0.97	1.43	0.73	0.45	12/31/87	3.34	18,417	100.00
Managed Short Term Composite	0.16	0.48	0.97	1.43	0.73	0.45	12/31/89	2.96	18,417	100.00
Indices										
91-Day Treasury Bill	0.16	0.48	0.97	1.43	0.73	0.45	12/31/89	2.98		

Manager returns are net of fees.

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