Table 1 - Reconciliation of Segment Information to Consolidated Financial Information

			2018					2019		
Millions of dollars	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Sales and other operating revenues:										
Olefins & Polyolefins - Americas	\$ 2,646	\$ 2,542	\$ 2,770	\$ 2,450	\$ 10,408	\$ 2,111	\$ 2,114	\$ 2,137	\$ 2,073	\$ 8,435
Olefins & Polyolefins - EAI	2,960	2,900	2,643	2,335	10,838	2,535	2,505	2,309	2,155	9,504
Intermediates & Derivatives	2,343	2,584	2,509	2,152	9,588	1,894	2,062	2,046	1,832	7,834
Advanced Polymer Solutions	838	833	1,039	1,314	4,024	1,339	1,258	1,186	1,067	4,850
Refining	2,257	2,569	2,499	1,832	9,157	1,882	2,180	2,134	2,055	8,251
Technology	115	182	171	115	583	141	173	146	203	663
Other/Eliminations	(1,392)	(1,404)	(1,476)	(1,322)	(5,594)	(1,124)	(1,244)	(1,236)	(1,206)	(4,810)
Continuing Operations	\$ 9,767	\$ 10,206	\$ 10,155	\$ 8,876	\$ 39,004	\$ 8,778	\$ 9,048	\$ 8,722	\$ 8,179	\$ 34,727
Operating income (loss):										
Olefins & Polyolefins - Americas	\$ 629	\$ 543	\$ 572	\$ 507	\$ 2,251	\$ 384	\$ 504	\$ 524	\$ 365	\$ 1,777
Olefins & Polyolefins - EAI	281	245	141	15	682	186	226	202	59	673
Intermediates & Derivatives	408	569	431	308	1,716	314	372	314	249	1,249
Advanced Polymer Solutions	114	112	48	55	329	119	91	67	13	290
Refining	15	58	38	(139)	(28)	(59)	(110)	(52)	(19)	(240)
Technology	46	100	88	50	284	73	96	73	132	374
Other	1	(1)	(1)	(2)	(3)	_	(2)	(4)	(1)	(7)
Continuing Operations	\$ 1,494	\$ 1,626	\$ 1,317	\$ 794	\$ 5,231	\$ 1,017	\$ 1,177	\$ 1,124	\$ 798	\$ 4,116
Depreciation and amortization:										
Olefins & Polyolefins - Americas	\$ 106	\$ 109	\$ 111	\$ 116	\$ 442	\$ 115	\$ 117	\$ 118	\$ 120	\$ 470
Olefins & Polyolefins - EAI	56	52	50	50	208	53	52	51	52	208
Intermediates & Derivatives	73	72	71	71	287	72	74	75	74	295
Advanced Polymer Solutions	8	9	22	30	69	29	30	32	42	133
Refining	46	46	45	55	192	43	44	41	41	169
Technology	10	12	10	11	43	10	11	10	6	37
Continuing Operations	\$ 299	\$ 300	\$ 309	\$ 333	\$ 1,241	\$ 322	\$ 328	\$ 327	\$ 335	\$ 1,312
EBITDA: ^(a)										
Olefins & Polyolefins - Americas	\$ 756	\$ 671	\$ 704	\$ 631	\$ 2,762	\$ 516	\$ 635	\$ 653	\$ 498	\$ 2,302
Olefins & Polyolefins - EAI	419	355	262	127	1,163	296	331	291	144	1,062
Intermediates & Derivatives	486	642	504	379	2,011	390	448	390	329	1,557
Advanced Polymer Solutions	123	121	70	86	400	148	120	102	54	424
Refining	63	104	84	(84)	167	(15)	(66)	(6)	22	(65)
Technology	56	113	98	61	328	83	107	83	138	411
Other	10	4	10	12	36	10	4	_	(13)	1
Continuing Operations	\$ 1,913	\$ 2,010	\$ 1,732	\$ 1,212	\$ 6,867	\$ 1,428	\$ 1,579	\$ 1,513	\$ 1,172	\$ 5,692
Capital, turnarounds and IT deferred spending:										
Olefins & Polyolefins - Americas	\$ 242	\$ 311	\$ 247	\$ 279	\$ 1,079	\$ 276	\$ 257	\$ 295	\$ 271	\$ 1,099
Olefins & Polyolefins - EAI	58	40	58	92	248	64	39	45	65	213
Intermediates & Derivatives	68	80	100	161	409	179	238	317	330	1,064
Advanced Polymer Solutions	15	10	16	21	62	16	11	14	18	59
Refining	36	45	47	122	250	43	53	41	12	149
Technology	8	9	12	19	48	17	17	26	34	94
Other	2	1	2	4	9	4	7	4	1	16
	 429	\$ 496	\$ 482	\$ 698	 2,105	 599	\$ 622	\$ 742	\$ 731	\$ 2,694

⁽a) See Table 7 for the reconciliation of net income to EBITDA.

Table 2 - Selected Segment Operating Information

Table 2 - Selected Segment Operating Information			2018					2019		
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Olefins and Polyolefins - Americas										
<u>Volumes (kilotons)</u>										
Ethylene produced	1,120	1,125	1,126	1,127	4,498	1,096	1,110	944	1,143	4,293
Propylene produced	280	272	339	371	1,262	332	308	367	336	1,343
Polyethylene sold	664	655	657	630	2,605	637	634	673	644	2,588
Polypropylene sold	229	231	223	205	889	219	232	247	207	905
Benchmark Market Prices										
West Texas Intermediate crude oil (USD per barrel)	62.94	67.99	69.71	59.09	64.93	54.90	59.80	56.40	56.98	57.02
Light Louisiana Sweet ("LLS") crude oil (USD per barrel)	65.84	73.14	74.27	66.57	69.96	62.38	66.94	60.64	60.78	62.68
Houston Ship Channel natural gas (USD per million BTUs)	3.12	2.88	2.97	3.84	3.20	2.86	2.46	2.26	2.24	2.46
U.S. weighted average cost of ethylene production (USD per metric ton)	326	341	455	381	376	362	262	209	260	273
U.S. ethylene (USD per metric ton)	669	582	663	660	643	614	535	584	632	591
U.S. polyethylene [high density] (USD per metric ton)	1,382	1,389	1,367	1,345	1,371	1,168	1,235	1,146	1,036	1,146
U.S. propylene (USD per metric ton)	1,168	1,146	1,323	1,117	1,189	838	823	845	775	820
U.S. polypropylene [homopolymer] (USD per metric ton)	1,609	1,639	1,830	1,624	1,676	1,323	1,308	1,308	1,224	1,291
Olefins and Polyolefins - Europe, Asia, International										
Volumes (kilotons)										
Ethylene produced	461	468	414	300	1,643	408	456	448	430	1,742
Propylene produced	276	287	247	176	985	239	275	270	249	1,033
Polyethylene sold	656	659	594	576	2,484	678	562	620	591	2,450
Polypropylene sold	763	727	660	647	2,796	752	729	718	722	2,921
Benchmark Market Prices (€ per metric ton)					,					,-
Western Europe weighted average cost of ethylene production	493	637	649	473	563	466	493	433	576	492
Western Europe ethylene	1,064	1,101	1,135	1,102	1,100	995	1,065	993	973	1,007
Western Europe polyethylene [high density]	1,239	1,216	1,220	1,189	1,216	1,126	1,191	1,125	1,097	1,135
Western Europe propylene	923	970	1,041	1,030	991	933	983	893	852	915
Western Europe polypropylene [homopolymer]	1,308	1,297	1,314	1,280	1,300	1,222	1,268	1,185	1,136	1,203
Intermediates and Derivatives										
Volumes (kilotons)										
Propylene oxide and derivatives	362	385	366	334	1,448	363	343	353	336	1,395
Intermediate Chemicals:	302	363	300	334	1,446	303	343	333	330	1,393
Ethylene oxide and derivatives	127	139	147	126	539	120	133	133	118	504
Styrene monomer	416	450	419	423	1,707	372	392	407	306	1,478
Acetyls	243	372	391	357	1,364	296	358	308	283	1,245
Oxyfuels and Related Products:	243	312	371	331	1,504	270	330	300	203	1,243
TBA intermediates	187	183	166	140	676	160	176	160	154	651
MTBE/ETBE	713	826	827	749	3,115	677	818	884	805	3,185
Benchmark Market Margins (USD per metric ton)	713	020	027	7.12	5,115	077	010	001	005	5,105
MTBE - Northwest Europe	205	224	189	161	195	126	295	374	282	266
Advanced Polymer Solutions										
<u>Volumes (kilotons)</u> Compounding & Solutions	289	280	359	477	1,405	503	475	452	422	1.053
									422 91	1,852 406
Advanced Polymers	110	123	112	102	447	104	105	106	91	400
Refining										
Volumes (thousands of barrels per day)										
Heavy crude oil processing rates	252	259	232	184	231	259	261	264	267	263
Benchmark Market Margins										
Light crude oil - 2-1-1	12.62	15.03	13.15	8.33	12.35	9.92	14.12	14.11	11.59	12.44
Light crude oil - Maya differential	8.10	10.91	8.28	2.56	7.50	3.63	4.87	4.02	7.85	5.14

Source: LYB and third party consultants

Note: Benchmark market prices for U.S. and Western Europe polyethylene and polypropylene reflect discounted prices. Volumes presented represent third party sales of selected key products.

Table 3 - Unaudited Income Statement Information

			2018					2019		
Millions of dollars	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Sales and other operating revenues	\$ 9,767	\$ 10,206	\$ 10,155	\$ 8,876	\$ 39,004	\$ 8,778	\$ 9,048	\$ 8,722	\$ 8,179	\$ 34,727
Cost of sales (a)	8,012	8,290	8,499	7,728	32,529	7,446	7,542	7,269	7,044	29,301
Selling, general and administrative expenses ^(b)	233	261	309	326	1,129	287	302	303	307	1,199
Research and development expenses	28	29	30	28	115	28	27	26	30	111
Operating income	1,494	1,626	1,317	794	5,231	1,017	1,177	1,124	798	4,116
Income from equity investments	96	68	89	36	289	64	64	51	46	225
Interest expense, net	(80)	(76)	(76)	(83)	(315)	(86)	(76)	(81)	(85)	(328)
Other income, net ^(c)	24	16	17	49	106	25	10	11	(7)	39
Income from continuing operations before income taxes ^(c)	1,534	1,634	1,347	796	5,311	1,020	1,175	1,105	752	4,052
Provision for (benefit from) income taxes ^(d)	303	(21)	232	99	613	203	169	136	140	648
Income from continuing operations ^(e)	1,231	1,655	1,115	697	4,698	817	1,006	969	612	3,404
Loss from discontinued operations, net of tax		(1)	(2)	(5)	(8)		(3)	(4)		(7)
Net income ^(e)	1,231	1,654	1,113	692	4,690	817	1,003	965	612	3,397
Dividends on A. Schulman Special Stock	_	_		(2)	(2)	(2)	(1)	(2)	(2)	(7)
Net income attributable to Company shareholders ^(e)	\$ 1,231	\$ 1,654	\$ 1,113	\$ 690	\$ 4,688	\$ 815	\$ 1,002	\$ 963	\$ 610	\$ 3,390

⁽a) The third quarter and fourth quarter of 2019 include pre-tax charges of \$3 million and \$20 million, respectively, for integration costs associated with our acquisition of A. Schulman.

⁽b) The third quarter of 2018, fourth quarter of 2018, first quarter of 2019, second quarter of 2019, third quarter of 2019 and fourth quarter of 2019 include pre-tax charges of \$53 million, \$20 million, \$16 million, \$19 million, \$40 million and \$18 million, respectively, for acquisition-related transaction and integration costs associated with our acquisition of A. Schulman.

⁽c) Includes a pre-tax gain of \$36 million in the fourth quarter of 2018 on the sale of our carbon black subsidiary in France and a pre-tax gain of \$5 million on the sale of our joint venture interest in Asia in the fourth quarter of 2019.

⁽d) The second quarter of 2018 and third quarter of 2019 includes a non-cash benefit of \$346 million and \$85 million, respectively, from the previously unrecognized tax benefits and release of associated accrued interest.

⁽e) The third quarter of 2018, fourth quarter of 2018, first quarter of 2019, second quarter of 2019, third quarter of 2019 and fourth quarter of 2019 include after-tax charges of \$42 million, \$15 million, \$12 million, \$15 mil

Table 4 - Charges (Benefits) Included in Net Income

			2	2018						2019			
Millions of Dollars (except share data))1	Q2		Q3	Q4	,	Total	Q1	Q2	Q3	Q4	-	Total
Pretax charges (benefits):													
Tax benefit from release of previously unrecognized tax benefits and associated accrued interest	\$ _	\$ (346)	\$	_	\$ _	\$	(346)	\$ _	\$ _	\$ (85)	\$ _	\$	(85)
Acquisition-related and integration costs - A. Schulman	_	_		53	20		73	16	19	43	38		116
Total pretax charges (benefits)	_	(346)		53	20		(273)	16	19	(42)	38		31
Provision for (benefit from) income taxes related to these items	_	_		(11)	(5)		(16)	(4)	(4)	(10)	(9)		(27)
After-tax effect of net charges (benefits)	\$ _	\$ (346)	\$	42	\$ 15	\$	(289)	\$ 12	\$ 15	\$ (52)	\$ 29	\$	4
Effect on diluted earnings per share	\$	\$ 0.88	\$	(0.11)	\$ (0.04)	\$	0.74	\$ (0.03)	\$ (0.04)	\$ 0.15	\$ (0.08)	\$	(0.02)

Table 5 - Unaudited Cash Flow Information

			2018					2019			
Millions of dollars	Q1	Q2	Q3	Q4	 Total	Q1	Q2	Q3	Q4	_	Total
Net cash provided by operating activities	\$ 1,006	\$ 1,727	\$ 1,441	\$ 1,297	\$ 5,471	\$ 657	\$ 1,186	\$ 1,876	\$ 1,242	\$	4,961
Net cash used in investing activities ^(a)	(189)	(400)	(2,312)	(658)	(3,559)	(178)	(278)	(754)	(425)		(1,635)
Net cash used in financing activities	(520)	(745)	(977)	(766)	(3,008)	(521)	39	(1,900)	(453)		(2,835)

⁽a) The third quarter of 2018 includes a cash outflow of \$1,776 million for the acquisition of A. Schulman, net of cash acquired and a liability deemed as a component of the purchase price.

Table 6 - Unaudited Balance Sheet Information

Millions of dollars	M	arch 31, 2018	J	une 30, 2018	S	eptember 30, 2018	De	cember 31, 2018	M	arch 31, 2019	J	une 30, 2019	Sept	ember 30, 2019	De	cember 31, 2019
Cash and cash equivalents	\$	1,840	\$	2,384	\$	521	\$	332	\$	339	\$	1,279	\$	476	\$	858
Restricted cash		_		2		11		69		19		29		36		30
Short-term investments		1,042		933		944		892		423		52		53		196
Accounts receivable, net		3,859		3,889		4,087		3,503		3,680		3,758		3,469		3,102
Inventories		4,257		4,096		4,596		4,515		4,496		4,685		4,446		4,588
Prepaid expenses and other current assets		1,070		1,045		1,224		1,255		1,329		1,285		1,150		736
Total current assets		12,068		12,349		11,383		10,566		10,286		11,088		9,630		9,510
Operating lease assets ^(a)		_		_		_		_		1,534		1,560		1,510		1,468
Property, plant and equipment, net		11,249		11,310		12,022		12,477		12,797		13,285		13,669		14,130
Investments and long-term receivables:																
Investment in PO joint ventures		424		429		440		469		464		489		486		504
Equity investments		1,767		1,599		1,688		1,611		1,650		1,599		1,609		1,602
Other investments and long-term receivables		22		22		20		23		23		24		24		22
Goodwill		578		562		1,819		1,814		1,803		1,848		1,848		1,891
Intangible assets, net		567		528		982		965		945		892		841		869
Other assets		221		224		342		353		387		386		497		439
Total assets	\$	26,896	\$	27,023	\$	28,696	\$	28,278	\$	29,889	\$	31,171	\$	30,114	\$	30,435
Current maturities of long-term debt	\$	5	\$	974	\$	984	\$	5	\$	5	\$	4	\$	4	\$	3
Short-term debt		77		76		214		885		2,377		2,812		2,438		445
Accounts payable, net		3,010		3,095		3,555		3,087		3,187		3,115		3,201		2,928
Accrued liabilities (a)		1,506		1,306		1,489		1,536		1,443		1,607		1,745		1,822
Total current liabilities		4,598		5,451		6,242		5,513		7,012		7,538		7,388		5,198
Long-term debt		8,531		7,490		7,471		8,497		7,522		7,586		9,628		11,614
Operating lease liabilities ^(a)		_		_		_		_		1,282		1,304		1,257		1,216
Other liabilities ^(a)		2,350		1,805		2,017		1,897		1,830		1,876		1,801		2,213
Deferred income taxes		1,688		1,674		1,774		1,975		1,967		2,008		2,018		2,015
Redeemable non-controlling interests		_		_		123		116		116		116		116		116
Stockholders' equity		9,728		10,602		11,044		10,257		10,138		10,721		7,888		8,044
Non-controlling interests		1		1		25		23		22		22		18		19
Total liabilities, redeemable non-controlling interests and equity	\$	26,896	\$	27,023	\$	28,696	\$	28,278	\$	29,889	\$	31,171	\$	30,114	\$	30,435

⁽a) In the first quarter of 2019, we adopted ASC 842, *Leases* and related amendments using the modified retrospective method and recognized Operating lease assets of \$1,533 million and Operating lease liabilities of \$1,553 million. We also reduced Accrued liabilities by \$2 million and Other liabilities by \$18 million. Comparative financial information has not been restated and continues to be reported under the accounting standards in effect for those periods.

Table 7 - Reconciliation of Net Income To EBITDA

ear Ended		Three	Months Ended		Year Ended		Three M	Ionths Ended		Year Ended
ecember 31, 2017	March 31, 2018	June 30, 2018	September 30, 2018	December 31, 2018	December 31, 2018	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	December 31, 2019
4,877	\$ 1,231	\$ 1,654	\$ 1,113	\$ 692	\$ 4,690	\$ 817	\$ 1,003	\$ 965	\$ 612	\$ 3,397
18	_	1	2	5	8	_	3	4	_	7
4,895	1,231	1,655	1,115	697	4,698	817	1,006	969	612	3,404
598	303	(21)	232	99	613	203	169	136	140	648
1,174	299	300	309	333	1,241	322	328	327	335	1,312
467	80	76	76	83	315	86	76	81	85	328
7,134	\$ 1,913	\$ 2,010	\$ 1,732	\$ 1,212	\$ 6,867	\$ 1,428	\$ 1,579	\$ 1,513	\$ 1,172	\$ 5,692
	2017 4,877 18 4,895 598 1,174 467	March 31, 2017 4,877 \$ 1,231 18 — 4,895 1,231 598 303 1,174 299 467 80	cember 31, 2017 March 31, 2018 June 30, 2018 4,877 \$ 1,231 \$ 1,654 18 — 1 4,895 1,231 1,655 598 303 (21) 1,174 299 300 467 80 76	cember 31, 2017 March 31, 2018 June 30, 2018 September 30, 2018 4,877 \$ 1,231 \$ 1,654 \$ 1,113 18 — 1 2 4,895 1,231 1,655 1,115 598 303 (21) 232 1,174 299 300 309 467 80 76 76	cember 31, 2017 March 31, 2018 June 30, 2018 September 30, 2018 December 31, 2018 4,877 \$ 1,231 \$ 1,654 \$ 1,113 \$ 692 18 — 1 2 5 4,895 1,231 1,655 1,115 697 598 303 (21) 232 99 1,174 299 300 309 333 467 80 76 76 83	cember 31, 2017 March 31, 2018 June 30, 2018 September 30, 2018 December 31, 2018 December 31, 2018 4,877 \$ 1,231 \$ 1,654 \$ 1,113 \$ 692 \$ 4,690 18 — 1 2 5 8 4,895 1,231 1,655 1,115 697 4,698 598 303 (21) 232 99 613 1,174 299 300 309 333 1,241 467 80 76 76 83 315	cember 31, 2017 March 31, 2018 June 30, 2018 September 30, 2018 December 31, 2018 December 31, 2018 March 31, 2019 4,877 \$ 1,231 \$ 1,654 \$ 1,113 \$ 692 \$ 4,690 \$ 817 18 — 1 2 5 8 — 4,895 1,231 1,655 1,115 697 4,698 817 598 303 (21) 232 99 613 203 1,174 299 300 309 333 1,241 322 467 80 76 76 83 315 86	cember 31, 2017 March 31, 2018 June 30, 2018 September 30, 2018 December 31, 2018 December 31, 2018 March 31, 2019 June 30, 2019 4,877 \$ 1,231 \$ 1,654 \$ 1,113 \$ 692 \$ 4,690 \$ 817 \$ 1,003 18 — 1 2 5 8 — 3 4,895 1,231 1,655 1,115 697 4,698 817 1,006 598 303 (21) 232 99 613 203 169 1,174 299 300 309 333 1,241 322 328 467 80 76 76 83 315 86 76	cember 31, 2017 March 31, 2018 June 30, 2018 September 30, 2018 December 31, 2018 March 31, 2019 June 30, 2019 September 30, 2019 4,877 \$ 1,231 \$ 1,654 \$ 1,113 \$ 692 \$ 4,690 \$ 817 \$ 1,003 \$ 965 18 — 1 2 5 8 — 3 4 4,895 1,231 1,655 1,115 697 4,698 817 1,006 969 598 303 (21) 232 99 613 203 169 136 1,174 299 300 309 333 1,241 322 328 327 467 80 76 76 83 315 86 76 81	cember 31, 2017 March 31, 2018 June 30, 2018 September 30, 2018 December 31, 2018 March 31, 2018 June 30, 2019 September 30, 2019 December 31, 2019 4,877 \$ 1,231 \$ 1,654 \$ 1,113 \$ 692 \$ 4,690 \$ 817 \$ 1,003 \$ 965 \$ 612 18 — 1 2 5 8 — 3 4 — 4,895 1,231 1,655 1,115 697 4,698 817 1,006 969 612 598 303 (21) 232 99 613 203 169 136 140 1,174 299 300 309 333 1,241 322 328 327 335 467 80 76 76 83 315 86 76 81 85

⁽a) The year ended December 31, 2017 includes after-tax charges totaling \$106 million related to the redemption of \$1,000 million aggregate principal amount of our then outstanding 5% Senior Notes due 2019 and an after-tax gain of \$103 million on the sale of our interest in Geosel. The third quarter of 2018, fourth quarter of 2019, second quarter of 2019, third quarter of 2019 and fourth quarter of 2019 include after-tax charges of \$42 million, \$15 million

⁽b) The second quarter of 2018 and third quarter of 2019 include a non-cash benefit of \$346 million and \$85 million, respectively, from the previously unrecognized tax benefits and release of associated accrued interest.

⁽c) The year ended December 31, 2017 includes pre-tax charges totaling \$113 million in the first quarter of 2017 related to the redemption of \$1,000 million aggregate principal amount of our then outstanding 5% Senior Notes due 2019.

⁽d) EBITDA for 2017 includes a pre-tax gain of \$108 million on the sale of our interest in Geosel. The third quarter of 2018, fourth quarter of 2019, second quarter of 2019, third quarter of 2019 and fourth quarter of 2019 include pre-tax charges of \$53 million, \$20 million, \$16 million, \$19 million, \$43 million and \$38 million, respectively, for acquisition-related transaction and integration costs associated with our acquisition of A. Schulman.

Table 8 - Reconciliation of Diluted EPS Excluding Certain Tax Adjustments to Diluted EPS

	Yea	r Ended	Ye	ar Ended				Three M	Ionth	s Ended			Ye	ear Ended
	Dec	ember 31, 2017	Dec	cember 31, 2018	M	arch 31, 2019	J	une 30, 2019	Sep	tember 30, 2019	Dec	ember 31, 2019	Dec	cember 31, 2019
Diluted earnings per share excluding tax benefit adjustments	\$	10.16	\$	11.13	\$	2.22	\$	2.74	\$	2.70	\$	1.83	\$	9.34
Non-cash benefit due to change in tax law from the U.S. Tax Cuts and Jobs Act		2.07		_		_		_		_		_		_
Non-cash benefit from the settlement of prior-year tax positions		_		0.88		_				0.25				0.24
Diluted earnings per share	\$	12.23	\$	12.01	\$	2.22	\$	2.74	\$	2.95	\$	1.83	\$	9.58

Table 9 - EBITDA by Segment

			Three N	1on	ths Ended				Year Ended				Three M	1ont	hs Ended			Yea	r Ended
Millions of dollars	arch 31, 2018	J	une 30, 2018	Se	eptember 30, 2018	D	December 31, 2018	I	December 31, 2018	M	larch 31, 2019	J	une 30, 2019	Sej	otember 30, 2019	De	ecember 31, 2019		ember 31, 2019
EBITDA:								_											
Olefins & Polyolefins - Americas	\$ 756	\$	671	\$	704	\$	631	\$	2,762	\$	516	\$	635	\$	653	\$	498	\$	2,302
Olefins & Polyolefins - EAI	419		355		262		127		1,163		296		331		291		144		1,062
Intermediates & Derivatives	486		642		504		379		2,011		390		448		390		329		1,557
Advanced Polymer Solutions	123		121		70		86		400		148		120		102		54		424
Refining	63		104		84		(84)		167		(15)		(66)		(6)		22		(65)
Technology	56		113		98		61		328		83		107		83		138		411
Other	10		4		10		12		36		10		4		_		(13)		1
Continuing Operations	\$ 1,913	\$	2,010	\$	1,732	\$	1,212	\$	6,867	\$	1,428	\$	1,579	\$	1,513	\$	1,172	\$	5,692
								_											

Table 10 - Components of Cash and Liquid Investments

Millions of dollars	ember 31, 2018	ember 30, 2019	mber 31, 2019
Cash and cash equivalents and restricted cash	\$ 401	\$ 512	\$ 888
Short-term investments	892	53	196
Repurchase agreements	544	518	_
Cash and liquid investments	\$ 1,837	\$ 1,083	\$ 1,084

Table 11 - Reconciliation of Free Operating Cash Flow to Net Cash Provided by Operating Activities, including Calculation of Free Operating Cash Flow Yield

			For t	the Years En	ded I	December 31,	,			
Millions of dollars	 2014	2015		2016		2017		2018		2019
Free operating cash flow Add:	\$ 5,342	\$ 5,027	\$	4,497	\$	4,187	\$	4,419	\$	3,937
Sustaining (maintenance and HSE) capital expenditures	706	815		1,109		1,019		1,052		1,024
Net cash provided by operating activities	\$ 6,048	\$ 5,842	\$	5,606	\$	5,206	\$	5,471	\$	4,961
Market capital: Common stock outstanding									33	33,476,883
Closing share price, end of period									\$	94.48
Market capital									\$	31,507
Free operating cash flow yield									_	12.5%

Table 12 - Dividend and Share Repurchase Yield Last Twelve Months Ended September 30, 2019

			Three Mo	onths l	Ended]	Last Twelve Months
I	December 31, 2018		March 31, 2019		June 30, 2019	5	September 30, 2019	S	eptember 30, 2019
\$	1.00	\$	1.00	\$	1.05	\$	1.05	\$	4.10
									86.17
									4.8%
	11,541,904		5,648,900		_		37,032,594		54,223,398
\$	1,053	\$	512	\$	_	\$	3,240	\$	4,805
									364,998,448
								\$	86.17
								\$	31,452
									15.3%
	\$	\$ 1.00 11,541,904	\$ 1.00 \$ 11,541,904	December 31, 2018 March 31, 2019 \$ 1.00 \$ 1.00 11,541,904 5,648,900	December 31, 2018 March 31, 2019 \$ 1.00 \$ 1.00 \$ 1,541,904 5,648,900	2018 2019 2019 \$ 1.00 \$ 1.00 \$ 1.05	December 31, 2018 March 31, 2019 June 30, 2019 S \$ 1.00 \$ 1.00 \$ 1.05 \$ 11,541,904 5,648,900 —	December 31, 2018 March 31, 2019 June 30, 2019 September 30, 2019 \$ 1.00 \$ 1.00 \$ 1.05 \$ 1.05 11,541,904 5,648,900 — 37,032,594	December 31, March 31, June 30, September 30, 2019 September 30, 2019 September 30, 2019 September 30, 2019 September 30, 2019 September 30, 2019 September 30, September 30, 2019 September 30, September 30,