John Tumazos Very Independent Research, LLC 5/5/2021
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John Tumazos and family accounts own about 14,625 WRK shares.

WESTROCK CEO EXPRESSES OPTIMISM; NO HINTS OF STRATEGIC OR SURGICAL CHANGES

WESTROCK WRK $56.54; rated Overweight, with $57 up from $54 price target

FD EPS	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E
5/5/21	$2.93	$(1.54)*	$2.77**	$7.34***	$3.33	$(2.67)	$2.88	$2.96	$3.07	$3.18	$3.29
4/14/20	$2.93	$(1.54)*	$2.77**	$7.34***	$3.33	$(2.67)	$2.76	$2.98	$3.15	$3.33	$3.52
8/13/19	$2.93	$(1.54)*	$2.77**	$7.34***	$3.37	$4.03	$4.56	$4.83	$5.09	$5.36	$5.60
2/21/19	$2.93	$(1.54)*	$2.77**	$7.34***	$4.05	$4.94	$5.45	$5.35	$5.60		
11/13/18	$2.93	$(1.54)*	$2.77**	$7.34***	$4.12	$4.47	$4.99	$4.92	$5.09		
8/2/18	$2.93	$(1.54)*	$2.77**	$7.41***	$3.89	$3.97	$4.48	$4.72	$5.12		
6/7/18	$2.93	$(1.54)*	$2.77**	$7.25***	$3.83	$3.90	$4.41	$4.65	$5.05		
12/22/17	$2.93	$(1.54)*	$2.77**	$2.73	$3.39	$4.13	$4.94	$5.27	$5.43		

WestRock reportS on a September 30 fiscal year; *WRK's 2016 EPS includes $3.20/share of charges, ** 2017 EPS includes a $192.8 mm gain and includes $243 mm in impairments and charges, *** WRK's 2018 EPS includes a $1,086.9 mm or $4.19 per share of tax benefits and 2020 $1,332.2 mm goodwill impairment.

Highlights:

- Newly appointed CEO David Sewell expressed confidence in WRK after his first 50 days predicting (1) $0.925 per share June operating EPS, (2) holding cap ex guidance at mild $850 mm FY 2021 and $950 FY 2022 midpoint, (3) raising the dividend to $0.24 from $0.20 per quarter, (4) predicting a dividend hike every year, (5) hinting at share buybacks with extra money and (6) satisfaction with a 2.0-2.5 times total debt/EBITDA leverage target as WRK calculates 2,80 times at March 31, 2021.
- The hike to $0.24 from $0.20 per share looked to the future in the strong economy and not back at the $0.42 per share March 31, 2021 reported earnings, $10.2 billion net debt plus long-term liabilities or $0.465 per share pre-pandemic peak quarterly dividend.
- David Sewell did not address several strategic issues on our minds, and flattish cap ex guidance suggests they are **not on his agenda**. We consider (1) need for a 2%-3% of revenue or up to $0.5 billion or larger outlay for enterprise software in the wake of the January 2021 IT collapse, (2) GPK vastly outspending WRK to expand and cut costs in Consumer Packaging, (3) deeper cuts to the $10.2 billion net debt, employee benefit and other long-term liabilities or (4) cost cuts, investment or sales of diverse weakly earning acquisitions over the past decade leading to the 2.5% March 31, 2021 after tax net margin.
- With the two industrywide price hikes and more to come > $100/ton, we raised our 2021 EPS estimate to $2.88 from $2.76 per share, but we cut 2022-25 to $2.96 from $2.98, $3.07 from $3.15, $3.18 from $3.33 and $3.29 from $3.52 per share in anticipation of Biden's 7% corporate income tax hike. WRK trends to exceed by up to 10% or meet our mid-pandemic $2.76 per share earnings estimate for FY 2021 made on April 14, 2020 with $0.57 in December, $0.42 in March, $0.925 guidance for June and our estimate of $0.0.85-$1.00 per share for September.
- We raised our price target to $57 from $54/share with the benefits of the price hikes, lower debt and a 1% drop to our estimated discount rate offset by pending higher corporate taxes, some costs and higher cap ex. We kept our Overweight in the hopes David Sewell identifies savings and with few better alternatives.
- WRK predicted $20/ton further sequential OCC cost hikes after $43/ton in March 2021 versus year ago lows, 5% freight cost hikes and other minor inflations.

- March 31, 2021 quarterly revenues rose $57/ton for WRK, IP and PKG from one year ago where we estimate $15/ton stemmed from a 25% or 439,000 ton fall in exports richening 4.5% of industrywide volume, $0-$5/ton benefited from a better mix and $37-$42/ton reflected fast implementation of the $50/ton September 2020 first price hike.
- We estimate $100/ton industrywide price realization gains for calendar 2021 with 4% apparent demand gains industrywide. We estimate 1% future annual pricing gains and 2.2% annual demand growth.

CONTAINERBOARD INDUSTRY CONDITIONS BREAK FAVORABLY

We estimate 4% 2021 after 3.1% 2020 calendar year industry demand growth. Further, we estimated 1 m.t. less 2020-22 industrywide capacity growth as several projects move along slowly per favorable AF&PA industrywide capacity utilization reports. These combine to about 3% above trend demand and 2.5% below prior estimate supply, where we forecast 93% capacity utilization over the next several years.

There may be wide variations in the price outlook depending upon a 2%-3% variation in either demand or supply from either direction. Thus, another $110/ton industrywide price hikes may occur in a boom, although some of the big packaged goods mega-companies bargain tough and its hard to implement large price hikes even in a strong capacity. The recent price hikes could evaporate, on the other hand, were demand to falter or some of the potential supply gains move ahead faster.

Table 10: Containerboard and Corrugated Box Price Realizations

Year/Quarter	2014	2015	2016	2017	2018	Q1 19	Q2 19	Q3 19	Q4 19	2019	Q1 20	Q2 20	Q3 20	Q4 20	2020	Q1 21	Q1 21 vs Q120
KS ($/t)	829	829	791	869													
IP ($/ton)	804	777	768	782	812	872	831	940	926	892	908	908	912	922	913	977	**69**
WRK ($/ton)	917	942	870	1,035	1,041	1,109	1,092	1,074	1,035	1,077	1,029	1,018	1,078	1,070	1,049	1,092	**62**
PKG ($/ton)	1,104	1,027	1,224	1,125	1,198	1,437	1,409	1,354	1,346	1,387	1,351	1,368	1,361	1,298	1,344	1,391	**40**
Average ($/ton)	**913**	**894**	**913**	**953**	**1,017**	**1,139**	**1,110**	**1,123**	**1,102**	**1,119**	**1,096**	**1,098**	**1,117**	**1,097**	**1,102**	**1,153**	**57**
Qrter Chg.		**(20)**	**19**	**40**		**87**	**(29)**	**12**	**(21)**		(6)	1	19	**(20)**		57	
Yr/Yr Chg.	**262**	**(20)**	**19**	**40**	**64**	**164**	**126**	**126**	**50**	**102**	**(43)**	**(13)**	**(6)**	**(5)**	**(17)**	**57**	

Note: The average assigns equal weight to each company, rather than weighting the realizations by shipments.

Source: Company Reports and John Tumazos Very Independent Research LLC Estimates

Table 2: Containerboard/Corrugated Shipments (000 Tons)

Year/C	2017	2018	Q1 19	Q2 19	Q3 19	Q4 19	2019	Q1 20	Q2 20	Q3 20	Q4 20	2020	Q1 21
IP	16,401	16,589	3,890	4,009	4,065	4,115	16,079	4,204	4002	4132	4136	16,474	4044
Yr/Yr Change		188	(115)	(240)	(135)	(20)	(510)	314	(7)	67	21	395	(160)
% Incr. (Decr.)		1.1%	-2.9%	-5.6%	-3.2%	-0.5%	-3.1%	8.1%	-0.2%	1.6%	0.5%	2.5%	-3.8%
WRK	8,354	9,455	2,697	2,815	2,815	2,811	11,139	2,801	2680.8	2689.5	2676.1	10,848	2669.1
Yr/Yr Change		1,100	411	540	455	279	1,684	104	(134)	(126)	(135)	(291)	(132)
% Incr. (Decr.)		13.2%	18.0%	23.7%	19.3%	11.0%	17.8%	3.9%	-4.8%	-4.5%	-4.8%	-2.6%	-4.7%
PKG	1,367	1,458	1,028	1,068	1,100	1,085	4,281	1,086	1031	1103	1187	4,407	1167
Yr/Yr Change		91	(409)	(412)	(374)	(352)	2,823	58	(37)	3	102	126	81
% Incr. (Decr.)		6.7%	-28.5%	-27.8%	-25.4%	-24.5%	193.5%	5.6%	-3.5%	0.3%	9.4%	2.9%	7.5%
Total S	**26,122**	**27,502**	**7,615**	**7,892**	**7,980**	**8,011**	**31,499**	**8,091**	**7,714**	**7,925**	**7,999**	**31,729**	**7,880**
Yr/Yr Change		1,380	(114)	(112)	(54)	(93)	3,997	476	(178)	(56)	(12)	230	(211)
% Incr. (Decr.)		5.3%	-1.5%	-1.4%	-0.7%	-1.1%	14.5%	6.3%	-2.3%	-0.7%	-0.1%	0.7%	-2.6%

Note: IP Shipments exclude recycling

Source: Company Reports and John Tumazos Very Independent Research LLC Estimates

Table 4: U.S. Containerboard Demand-Supply Balance (Thous. Tons)

	Average Annual Capacity	Output	Average Operating Rate (%)	Implied Virgin Output	OCC Recovery	OCC Exported	China-Owned China Exports	Net Exports Conboard.	Inventory Total	Inventory Change	Apparent Consumption	Annual Demand Growth	Days Supply Inventory	Avg. Revenue per Ton	Est. Box Utilization Rate
1978	20,307	19,121	94.2%	12,400	6,721			0	0	0	19,121	4.0%	0		64%
1979	20,887	20,080	96.1%	14,073	6,967	960		0	0	0	20,080	5.0%	0		66%
1980	21,371	20,259	94.8%	14,602	6,866	1,209		0	0	0	20,259	0.9%	0		65%
1981	22,172	20,525	92.6%	14,606	6,910	991		0	0	0	20,525	1.3%	0		63%
1982	23,157	19,177	82.8%	13,287	6,777	887		0	0	0	19,177	-6.6%	0		53%
1983	23,158	21,196	91.5%	14,746	7,443	993		0	0	0	21,196	10.5%	0		62%
1984	23,734	22,680	95.6%	15,971	7,972	1,263		0	0	0	22,680	7.0%	0		66%
1985	23,996	21,779	90.8%	15,190	7,900	1,311		0	0	0	21,779	-4.0%	0		61%
1986	24,779	23,578	95.2%	16,469	8,634	1,525		0	0	0	23,578	8.3%	0		65%
1987	26,260	25,222	92.7%	17,966	9,177	1,921		0	0	0	25,222	7.0%	0		63%
1988	26,847	25,573	95.3%	17,941	9,909	2,277		0	0	0	25,573	1.4%	0		65%
1989	27,415	25,795	94.1%	18,497	9,994	2,696		0	0	0	25,795	0.9%	0		64%
1990	28,355	26,823	94.6%	18,867	10,687	2,731		0	0	0	26,823	4.0%	0		65%
1991	28,937	27,451	94.9%	18,953	11,247	2,749		0	2,644	0	27,451	2.3%	35		65%
1992	30,032	28,751	95.7%	19,012	12,532	2,794		2,618	2,918	274	25,859	-5.8%	41		66%
1993	30,748	29,245	95.1%	18,163	13,567	2,485		2,385	2,495	-423	27,283	5.5%	33		65%
1994	31,925	30,881	96.7%	19,292	15,010	3,421		2,548	2,182	-313	28,646	5.0%	28		67%
1995	33,514	31,326	93.5%	19,116	16,514	4,304		2,276	2,968	786	28,264	-1.3%	38		63%
1996	35,444	32,680	92.2%	16,700	18,733	2,753		3,299	2,812	-156	29,537	4.5%	35		62%
1997	37,008	34,400	93.0%	17,333	19,641	2,574		3,996	2,678	-134	30,538	3.4%	32		63%
1998	37,447	33,841	90.4%	17,077	19,530	2,766		2,994	2,605	-73	30,920	1.3%	31		60%
1999	36,364	34,234	94.1%	16,131	20,458	2,355		2,357	2,797	192	31,685	2.5%	32		64%
2000	36,745	33,645	91.6%	15,891	20,792	3,038		1,925	2,812	15	31,705	0.1%	32		62%
2001	36,649	32,097	87.6%	15,255	19,776	2,934		1,570	2,752	-60	30,587	-3.5%	33		58%
2002	37,531	33,648	89.7%	17,612	19,628	3,591		2,418	2,867	115	31,115	1.7%	34		60%
2003	36,467	33,212	91.1%	18,193	19,362	4,343		2,673	2,417	-450	30,989	-0.4%	28		61%
2004	36,574	34,815	95.2%	18,472	20,152	3,809		2,548	2,687	270	31,997	3.3%	31		65%
2005	36,755	34,534	94.0%	19,494	19,642	4,602		3,060	2,265	-422	31,896	-0.3%	26		64%
2006	36,300	35,194	97.0%	20,215	20,158	5,179		3,151	2,432	167	31,876	-0.1%	28		67%
2007	36,370	35,302	97.1%	20,595	20,145	5,438		3,623	2,254	-178	31,857	-0.1%	26	1,008	72%
2008	36,694	34,067	92.8%	20,860	19,549	6,342		3,623	2,494	240	30,204	-5.2%	30	1,026	70%
2009	36,993	31,521	85.2%	21,458	17,028	6,965		4,341	2,139	-355	27,535	-8.8%	28	975	66%
2010	35,309	33,766	95.6%	21,812	19,086	7,132		4,955	2,300	161	28,650	4.0%	29	795	81%
2011	35,583	34,024	95.6%	21,497	19,659	7,132		5,489	2,353	53	28,482	-0.6%	30	844	83%
2012	35,965	34,347	95.5%	24,788	20,248	10,689		4,542	2,051	-302	30,107	5.7%	25	871	83%
2013	36,446	34,823	95.5%	23,750	20,856	9,783		3,457	2,324	273	31,093	3.3%	27	976	83%
2014	36,924	35,392	95.9%	23,674	21,481	9,763		3,726	2,301	-23	31,689	1.9%	27	913	83%
2015	37,463	35,816	95.6%	24,448	22,126	10,758		3,696	2,546	245	31,875	0.6%	29	894	83%
2016	37,993	36,318	95.6%	24,390	22,790	10,862		3,897	2,302	-244	32,665	2.5%	26	913	83%
2017	38,371	37,417	97.5%	23,850	23,473	9,906		3,995	2,378	76	33,346	2.1%	26	953	85%
2018	39,289	38,241	96.9%	28,172	22,598	12,529		4,768	2,659	281	33,192	-0.5%	29	1,017	85%
2019	40,094	36,731	91.6%	25,523	21,856	10,648		4,277	2,525	-134	32,588	-1.8%	28	1,119	84%
2020	40,863	38,042	93.1%	24,788	22,730	9,477	0	4,775	2,197	-328	33,595	3.1%	24	1,102	85%
2021E	41,576	38,977	93.7%	25,042	23,412	9,477	250	3,963	2,272	75	34,939	4.0%	24	1,202	87%
2022E	42,450	39,910	94.0%	24,690	24,115	8,894	500	4,003	2,472	200	35,707	2.2%	25	1,214	88%
2023E	43,630	40,649	93.2%	23,918	24,838	8,107	500	4,043	2,572	100	36,506	2.2%	26	1,226	89%
2024E	44,573	41,454	93.0%	23,349	25,583	7,478	1,000	4,083	2,622	50	37,320	2.2%	26	1,238	91%
2025E	45,526	42,285	92.9%	22,778	26,351	6,843	1,000	4,124	2,622	0	38,161	2.3%	25	1,251	92%

Sources: John Tumazos Very Ind. Research LLC; AF&P; Fibre Box Assn., Scoring Boxes

Containerboard industry cost trends are a large concern. OCC averaged $34/ton in calendar 2019, $58/ton in 2020 and should average well over $76 in 2021 based on the first-quarter. It averaged a record $157 in 211 after a $183/ton March 2010 record, and averaged > $100/ton in 2007, 2008, 2010-13 and in 2017 after reaching $173/ton in March 2017 after the January 2017 explosion at the IP Pensacola, FL digester. Those seven years are an example, and it is possible the December 2019 $22/ton monthly price low and Chinese past embargo on scrap paper or metals imports created the foundations for a future new price record in discouraging scrap paper recovery.

Energy, transportation, labor and benefits are separate cost inflation concerns, which could contribute to cost increases for virgin fiber eventually. Logging costs involve diesel fuel, labor and transportation. Thus, the broad industry concern involves how much of the price hikes simply offset cost inflations. We would be satisfied if ½ of the price hikes fall to the bottom line.

PRICE TARGET RAISED TO $61 FROM $54 WITHOUT RAISING EARNINGS ESTIMATES TO REFLECT INDUSTRYWIDE PRICE HIKES

We raised our price target to $57 from $54 per share. The favorable impacts of higher estimated earnings with containerboard favorable pricing in 2021-22, lower net debt and a 1% lower discount rate almost were offset by higher 2022 onwards cap ex, the expected Biden 7% higher corporate income tax rates and consequently lower 2023-25 earnings. All of these events are very fluid.

Table 3: WestRock DCF Model

Year	2019	2020E	2021E	2022E	2023E	2024E	2025E
Net Income	862	(691)	768	796	825	855	885
Depreciation	1,511	1,487	1,442	1,442	1,428	1,414	1,400
Deferred Taxes	64	43	-	131	136	141	145
Other NC Charges	87	1,473	315	200	200	200	200
Interest Expense*(1-t)	326	345	136	171	146	120	95
less CAPEX	1,369	978	850	950	925	925	925
less Acquisitions		1	-	50	100	100	100
+ asset sales, adjusted for debt	175	42	100	25	25	25	25
Less Working Capital change	75	39	130	94	55	56	57
FCF	1,582	1,680	1,782	1,672	1,680	1,674	1,668
Shares Outstanding	259.0	262.0	267.0	269.0	269.0	269.0	269.0
Weighted Free Cash Flow	1,630	1,712	1,782	1,659	1,668	1,661	1,655
Discount Rate	7.50%						
NPV of 2021-2025 FCFs	$6,833						
Terminal Growth Rate at 1%	1.0%						25,722
PV of Terminal Value	18,577						
NPV of 2021 Onwards FCFs	25,410						
Less Net Debt	10,196	3/31/21 Net Debt + Other long-term liabilities					
Fair Market Value	15,214						
Diluted Shares Outstanding	267.0	Estimated Year End 2021 Diluted Share Count					
Value per Share	**$ 56.98**						
Sources: WestRock Reports and John Tumazos Very Ind. Research, LLC Estimates							

Another factor in our maintaining our Overweight investment recommendation for WRK is the potential that the new CEO hired from the outside identifies some "white elephants" in the WRK asset base, whose benefits from change we cannot exactly quantify. Another intangible factor is that we do not have an obvious better idea. IP or PKG have exposures to white paper, which declines. Wood prices are 4 to 8 times costs in various regional markets for various products. Some metals prices are well extended too.

Table 4: WestRock Income Statement									6.8
	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E
Sales									
Consumer Packaging	6,453	7,291	6,606	6,333	6,430	6,623	6,689	6,756	6,823
Corrugated Packaging	8,408	9,103	11,817	11,419	12,298	12,773	13,099	13,432	13,772
Community dev + land mgmt	244	142	23	-	-	-	-	-	-
Intersegment Sales	(245)	(252)	(157)	(173)	(234)	(242)	(247)	(252)	(257)
Total Sales	**14,860**	**16,285**	**18,289**	**17,579**	**18,495**	**19,154**	**19,541**	**19,936**	**20,338**
Operating Profit									
Consumer Packaging	426	455	388	324	343	353	357	360	364
Corrugated Packaging	754	1,208	1,400	1,038	962	1,072	1,077	1,083	1,088
Community dev + land mgmt	14	23	3	-	-	-	-	-	-
Total Segment income	**1,194**	**1,685**	**1,790**	**1,361**	**1,305**	**1,425**	**1,434**	**1,443**	**1,452**
Non Allocated expense	-	48	84	-	-	-	-	-	-
Cost of good sold	11,233	11,931	13,429	11,678	14,175	14,618	15,005	15,419	15,842
Depreciation and amortization	1,117	1,257	1,511	1,487	1,442	1,442	1,428	1,414	1,400
SG&A excluding amort. Intang	1,400	1,547	1,715	1,624	1,722	1,722	1,722	1,722	1,722
Pension lump sum +medical	33	184	(6)	(1)					
Restructuring/impairments +oth	243	137	152	1,446	75	75	75	75	75
(Gains)	(195)	(1)	(17)	(16)					
Interest Expense (Income)	278	294	431	394	334	276	238	219	199
Equity in Income of Unconsolida	39	39	-	16	40	35	35	35	35
loss on debt extinguishment	0	1	4	2	2				
Interest income and other	(62)	(13)	(1)	(113)	(150)	(53)	(48)	(62)	(76)
Pre Tax Income	**858**	**1,035**	**1,144**	**(523)**	**1,044**	**1,127**	**1,169**	**1,211**	**1,254**
Taxes	(159)	875	(277)	(164)	(272)	(327)	(339)	(351)	(364)
Cash Taxes w credits	(240)	875	(277)	(121)	(272)	(262)	(271)	(281)	(291)
Book Tax Rate	18.5%	-84.5%	24.2%	-31.3%	26.0%	29.0%	29.0%	29.0%	29.0%
Cash Tax Rate after credits	28.0%	-84.5%	24.2%	-23.0%	26.0%	23.2%	23.2%	23.2%	23.2%
Loss from Discontinued Ops									
Less Non-Controlling Interests	10	(3)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Net Income	**708**	**1,906**	**862**	**(691)**	**768**	**796**	**825**	**855**	**885**
Basic Shares outstanding	252.2	255.6	255.0	259.0	264.0	266.0	266.0	266.0	266.0
FD shares outstanding	255.7	259.8	259.0	262.0	267.0	269.0	269.0	269.0	269.0
Basic EPS	$2.81	$7.46	$3.38	-$2.67	$2.91	$2.99	$3.10	$3.22	$3.33
FD EPS	**$2.77**	**$7.34**	**$3.33**	**-$2.67**	**$2.88**	**$2.96**	**$3.07**	**$3.18**	**$3.29**
Dividend per share	$1.60	$1.72	$1.82	$1.33	$0.88	$0.92	$0.96	$1.00	$1.04
Cash Flow per share	$7.02	$8.05	$9.41	$3.20	$8.28	$8.81	$8.88	$8.96	$9.03
Book Value per share	$40.62	$44.19	$45.06	$41.72	$44.50	$46.96	$49.66	$52.41	$55.22
Tang. Book Value per share	$5.98	$10.71	$1.25	$3.82	$7.31	$9.99	$12.57	$15.19	$17.88
Net Adj. Leverage Ratio	$2.71	$1.96	$3.00	$3.22	$2.83	$2.28	$1.86	$1.44	$1.02
EBITDA ($ millions)	**2,190**	**2,573**	**3,085**	**1,245**	**2,671**	**2,793**	**2,787**	**2,782**	**2,776**

Sources: WestRock Reports and John Tumazos Very Independent Research, LLC Estimates

Table 5: WRK Dynamics	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E
WRK DYNAMICS (000 tons)									
Consumer Packaging	3,844	4,032	3,909	3,871	3,871	3,988	4,027	4,068	4,108
NA Corrugated Packaging	8,340	8,418	10,118	10,219	10,321	10,527	10,685	10,846	11,008
Brazil/India Corrugated	679	720	728	712	712	730	748	767	786
Consumer Packaging price/t	**1,679**	**1,808**	**1,690**	**1,636**	**1,661**	**1,661**	**1,661**	**1,661**	**1,661**
Corrugated price/t	**932**	**996**	**1,090**	**1,045**	**1,115**	**1,135**	**1,146**	**1,157**	**1,168**
% Chg. In Consumer Pkg price	2.7%	7.7%	-6.5%	-3.2%	1.5%	0.0%	0.0%	0.0%	0.0%
% Change in corrugated price	7.1%	6.9%	9.4%	-4.1%	6.7%	1.8%	1.0%	1.0%	1.0%
Consumer Packaging CGS/t	**1,568**	**1,696**	**1,591**	**1,552**	**1,572**	**1,572**	**1,572**	**1,572**	**1,572**
Corrugated CGS/t	**908**	**928**	**1,021**	**1,007**	**1,027**	**1,039**	**1,051**	**1,063**	**1,075**
Consumer Pkg op. margin	**6.6%**	**6.2%**	**5.9%**	**5.1%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**	**5.3%**
Corrugated operating margin	**9.0%**	**13.3%**	**11.8%**	**9.1%**	**7.8%**	**8.4%**	**8.2%**	**8.1%**	**7.9%**
TOTAL EBITDA ($ MM)	**2,310**	**2,942**	**3,302**	**2,848**	**2,748**	**2,868**	**2,862**	**2,857**	**2,851**

Sources: WestRock Reports and John Tumazos Very Independent Research, LLC Estimates

Table 7: WestRock Sources and Uses of Funds ($ Mil.)									
Sources	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E
Net Income	699	1,909	862	(691)	768	796	825	855	885
Depreciation	1,117	1,252	1,511	1,487	1,442	1,442	1,428	1,414	1,400
Cost of Real Estate Sold	208	121	17	16	-	-	-	-	-
Deferred income taxes	(20)	(1,069)	64	43	-	131	136	141	145
Share-based expense	58	67	62	151	200	125	125	125	125
Noncash charges	(225)	(40)	8	1,305	115	75	75	75	75
Debt	2,187	2,052	7,936	1,723					
Equity	36	27	18	22	40	40	40	40	40
Asset Sales	1,073	23	175	42	100	25	25	25	25
Cash Received in Merger									
other	6	(13)	(72)	(6)	25				
Total Sources	5,137	4,330	10,582	4,092	2,690	2,634	2,654	2,675	2,695
Uses	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E
Capital spending	779	1,000	1,369	978	850	950	925	925	925
Investments/Acquisitions	1,591	354	3,385	1	-	50	100	100	100
Debt repayment	2,332	2,148	5,632	2,397	1,500	1,500	500	500	500
Pension		(87)	61	80	60	60	60	60	60
Stock repurchases	93	195	89	-	-	-	45	50	55
Dividends	403	441	468	344	232	245	255	266	277
Minority interests	59	33	4	2	4	4	4	4	4
Change in working capital	(77)	(94)	75	39	130	94	55	56	57
Change in Cash	(43)	338.7	(501)	250	(86)	(269)	709	713	717
Total Uses	5,137	4,330	10,582	4,092	2,690	2,634	2,654	2,675	2,695

Sources: WestRock Reports and John Tumazos Very Independent Research, LLC Estimates

Table 6: WestRock CAPEX Per Ton of Paper Produced									
Year	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E
Capital Expenditures ($ mm)	779	1,000	1,369	978	850	950	925	925	925
Consumer Packaging (000 Ton	3,844	4,032	3,909	3,871	3,871	3,988	4,027	4,068	4,108
Corrugated Packaging (000 Tor	9,019	9,138	10,845	10,931	11,033	11,257	11,433	11,612	11,794
Total Paper Shipped (000 Tons	12,863	13,171	14,754	14,802	14,904	15,245	15,461	15,680	15,903
CAPEX PER TON	**60.53**	**75.92**	**92.79**	**66.08**	**57.03**	**62.32**	**59.83**	**58.99**	**58.17**
Sources: WestRock Reports and John Tumazos Very Independent Research, LLC Estimates									

Table 8: WestRock Balance Sheet ($ Mil.)									
Assets	2017A	2018A	2019A	2020A	2021E	2022E	2023E	2024E	2025E
Cash and Cash Equivalents	304	637	152	251	165	-104	606	1319	2036
Accounts Receivable	1887	2011	2193	2143	2354	2435	2482	2530	2579
Inventories	1797	1830	2108	2023	2129	2205	2249	2295	2341
Other Current Assets	503	308	522	528	528	528	528	528	528
Total Current Assets	4491	4785	4974	4945	5176	5063	5864	6671	7484
Net PP&E	9118	9083	11190	10779	10187	9728	9292	8870	8462
Prepaid pension asset	368	420	225	369	369	369	369	369	369
Goodwill	5528	5578	7286	5962	5962	5979	6012	6045	6078
Intangibles net	3329	3122	4060	3967	3967	3967	3967	3967	3967
Restricted assets held by SPEs	1287	1281	1274	1268	1268	1268	1268	1268	1268
Other assets	967	1092	1149	1791	1791	1791	1791	1791	1791
Total Assets	25089	25361	30157	29080	28718	28163	28561	28980	29418
Liabilities									
Short Term Debt	609	741	561	223	223	223	223	223	223
Accounts Payable	1492	1717	1832	1674	1861	1924	1961	1999	2037
Accrued Compensation + benef	417	399	470	387	387	387	387	387	387
Other Current Liabilities	492	477	572	645	645	645	645	645	645
Total Current Liabilities	3010	3333	3435	2929	3116	3179	3216	3253	3292
Long Term Debt	5946	5675	9502	9208	7708	6208	5708	5208	4708
Non-recourse liabs held by SPE	1162	1154	1145	1137	1137	1137	1137	1137	1137
Accrued pension and l.t.liabilitie	433	396	456	451	451	451	451	451	451
Deferred Income Taxes	3410	2322	2878	2917	2917	3048	3183	3324	3469
Other Long Term Liabilities	737	995	1054	1492	1492	1492	1492	1492	1492
Minority Interests	5	4	16	17	17	17	17	17	17
Shareholder's Equity	10386	11482	11670	10931	11882	12633	13359	14099	14854
Total Liabilities	25089	25361	30157	29080	28718	28163	28561	28980	29418
Accounts Receivable % of sales	12.7%	12.3%	12.0%	12.2%	12.2%	12.2%	12.2%	12.2%	12.2%
Inventory % of sales	12.1%	11.2%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%	11.5%
Accounts Payable % of sales	10.0%	10.5%	10.0%	9.5%	9.5%	9.5%	9.5%	9.5%	9.5%
interest percent paid	4.2%	4.6%	4.3%	4.2%	3.85%	3.85%	3.85%	3.85%	3.85%
Stock Repurchase Price	51.7	57.4	26.1	NA	NA	60.0	65.0	70.0	75.0
Sources: WestRock Reports and John Tumazos Very Independent Research, LLC Estimates									

FAVORABLE CASH FLOW DYNAMICS

We estimate WRK generates $0.7 billion of excess cash flows in 2023-25 to close September 30, 2025 with $2 billion in cash balances. Further, we estimate it closes year-end 2025 with < $5 billion in interest bearing debt, or under $3 billion in net debt or about $5 billion in debt-equivalents adding in $2 billion in employee benefit and other long-term liabilities. Thus, we expect WRK to morph into a well-funded company.

We estimate it gets there with a $1.5 billion debt paydown in 2021 and 2022 primarily, and slows to $0.5 billion in debt repayments in 2023-25. We estimate the $850 mm 2021 cap ex budget with no acquisitions is a low point, and spending rises.

DISCRETIONARY DISTRIBUTIONS TO SHAREHOLDERS

Historically WRK has been very shareholder oriented company, and the cut to $0.20 from $0.465 pert share quarterly dividends was a trauma. Today it restored the dividend to $0.24 per share or $0.96 per year from $0.80, and we cautiously estimate it raises $0.04 per share per year or $0.01 quarterly per year to reach $1.04 in 2025 that would remain below the $1.86 peak annual rate.

We estimate share buybacks begin in 2023 at $45 mm, and rises to $50 mm in 2024 and $55 mm in 2025. Clearly with $0.7 billion in estimated excess cash flows it has the potential to do more, especially as we estimate $2 billion in 2025 year-end cash balances or $5 billion in net debt plus long-term liabilities.

OPPORTUNITIES TO MAKE WRK A BETTER COMPANY

We estimate WRK will resume the search for good investment opportunities as its finances have improved by $2 billion from peak debts after the Kapstone acquisition, and will improve more rapidly with industry price hikes. Interest expenses will fall as higher cost borrowings mature or are repaid early.

We estimate the sum of cap ex, investments and acquisitions rises from $850 mm in 2021 to $1.0 to $1.025 billion in 2022-25. However, there are many opportunities to do more. High value box plants or consumer packaging targets may be acquired, where WRK has demurred to let GPK, PKG, IP or Smurfit Kappa get all the goodies after WRK paid to much for Kapstone and other acquisitions several years ago.

We are concerned that some of the diverse acquisitions of the past decade do not "fit" together perfectly. We had worried that over 80% of the WRK sales revenues in 2020 were not present in the 2008-09 recession, but WRK and the broad containerboard and consumer packaging industries weathered 2020 splendidly. In both recessions scrap paper prices went almost to nil, containerboard exports continued nicely and consumers continued to buy boxes from containerboard, CRB, CUK or SBS eagerly. Further, in the contemporary markets plastics retreat, which give paper products the opportunity to reverse the past 1 or 2 generations of market share erosions.

We see **at least five potential fertile areas of cap ex** for cost reduction, growth or sustainability. These are information technology, cost reduction, tonnage expansion, bolt-on box acquisitions or specific cap ex efforts to keep pace with GPK in Consumer Packaging where GPK investors aggressively to improve and expand rapidly**. For these reasons we hesitate to build a return to prior peak common dividends or share buybacks.**

We want to stress that most paper solutions cost about 50% or ½ more than plastics. Thus, especially in Consumer Packaging, there are huge pressures from large consumer companies for the paper companies to reduce costs and prices to win new applications. This is a harsh dynamic.

Further, the January 2021 "Ransomeware" fiasco raises the issue that WRK has IT shortcomings. Further, the creation of the company via a generation of frenetic acquisitions suggests the opportunity for series of IT integrations to have shortcomings. After all, many IT professionals are human. In effect, WRK would have needed to rebuild its financial, operating, customer service and enterprise softwares each 5 years to stay in the game. It is easy to imagine a global IT solutions company pricing 5% of annual revenues to completely rebuild WRK electronically, or upwards of $1 billion. If WRK can keep such a bill nearer to 2%-3% of revenues or $0.5 billion, spread it over 2 or 3 years and hide it from an open disclosure we would view it as a sort of "investor relations coup."

WRK BUSINESS RISKS

Successful execution of the roughly $6 Billion acquisition of KapsStone and debt reductions afterwards has been a significant challenge or risk factor for WRK. WRK targeted $200 mm in cost synergies and performance improvements by the end of 2021, but margins did not grow as expected, through the integration of KapStone's operations into WestRock's corrugated packaging system. WRK completed their acquisition of KapStone on 11/2/18.

Today the risks shift to WRK missing opportunities for growth as it focuses on debt and "shut down" most discretionary spending. Another set of risks involve terms, timing and execution of future acquisitions, since WRK has grown by acquisition largely since the 2008-09 recession. Opportunities are "episodic" or infrequent, where WRK may buy businesses when the seller is willing to sell. It may not be possible for WRK to sequence or plan such purchases, but rather will buy when sellers agree. As WRK improves its balance sheet, our focus moves to how much better its future acquisitions perform.

WRK addressed the risks involved in the performances of acquired businesses in a recession in staying profitable in 2020 and 2021. WRK owned only 20% of its current sales prior to the 2008-09 recession prior to acquiring KS, MWV, SSCC and smaller consumer packaging companies. As noted, particular high growth containerboard e-commerce and organic food customers may prove pro-cyclical, where consumers may not afford premium prices or large discretionary purchases if a harsh recession surprisingly occurs. Of course, unemployment is near a ½ century low and near-term economic indicators are favorable.

This unknown also diminished as WRK ceased buybacks as its share price fell and outlook weakened. One major risk to our WRK valuation model is the value associated with future share repurchases. Future share repurchases represent roughly $2 of WRK's price target. However, the recent share price rebound raises risks in WRK buybacks of shares more expensively than we expected rather than more cheaply.

WestRock faces similar risks to other containerboard manufacturers related to selling prices, input costs, margins, consumer nondurable income, etc. Additionally, the financing they put in place to acquire various units fixes capital costs, and cost savings and industry wide price-cost margin swings are more important just to cover their financing costs. Additionally, WRK has significant risk to interest rate fluctuations as their term loans and revolving credit facility have floating interest rates, although these may be swapped out and fixed in the future.

Overseas operations are about 1/10th of the company. Because WRK is largely a domestic company, foreign currencies, tax rates and political risk are less than many metals, forest products or fertilizer resources companies. It does not have large exposures to Russia or Eastern Europe like IP, for example. Its selling price, box contracts, purchased wood fiber, OCC, natural gas, wages and benefits are major inputs to its financial analysis.

CERTIFICATION OF OUR RESEARCH OPINIONS

I, John Tumazos, certify that the opinions written in all research reports are my own. I believe what we write, and from time to time I may buy or sell the shares we recommend after a 48 hour delay after publishing our reports following the advice we give. Further, I personally proofread and "click the pdf button" on virtually every report we publish except sometimes when I am abroad.

Our team or employees is encouraged to disagree with me at any time. We have active and vigorous internal debates concerning appropriate discount rates or long-term terminal growth rates to use in net present value valuations or other analytical issues. My team realizes that customers want to pay for my 30+ years of experience, but I encourage them to disagree, correct or provoke debate to improve our work.

DEFINITION OF A RESEARCH OPINION

We have target prices, investment ratings, earnings estimates and financial models for 47 companies upon which we maintain regular research coverage.

The legal or regulatory definition of research, however, is more broad. Regulators consider any written or editorial commentary about a stock or publicly traded company to be "research." However, a "recommendation" or "opinion" is not rendered unless there is a price target and specific buy or sell recommendation.

From time-to-time we visit very large, important global companies outside our research coverage. Our objective may be to be well informed about industry events, predict future mine output or "supply" in a particular market or to begin to learn about a complex company to begin future full research. We may need to learn and become familiar to provide inputs to our financial models. In May 2008 we published a partial report on Xstrata after visiting two of its mines in South America. In November 2008 we published a partial report summarizing our visits to the London headquarters of Xstrata and Anglo-American outside our coverage as well as Rio Tinto and Antofagasta PLC within our full coverage. In August 2009 we published two research reports on Severstal after visiting its Columbus, MS newest steel plant a second time. These "partial" reports contained no price target, investment rating, earnings estimates or financial models. Instead, they provided detailed descriptions of the important locations we visited or meetings in headquarters.

We provide research about commodities markets in general, "seminar highlights" on up to another 75 or more companies we host annually at our conferences outside our regular full research coverage and "partial reports." We have no price target, written investment opinion, earnings estimates or financial models (production, incomes statement, cash flow or balance sheet simulations) of such companies outside our coverage that speak at our March or November conferences. Any viewpoint we have without complete financial models or careful financial analysis is "winging it."

Our intent is in writing Seminar Highlights is to provide a one page written summary of each seminar participant company's presentation. We provide live open, public, unrestricted webcasts of each such corporate presentation at our conferences as a courtesy to each participating company, and archive each webcast under the "conferences" tab of www.veryindependentresearch.com.

Our clients should not automatically consider our invitation of a company to speak at our future conferences as a "Buy Recommendation" or complete endorsement. We may not have visited the mines or assets of some of these companies. Occasionally we invite a company to speak to learn more about them as a stage in our learning process.

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Currently we have over 30 paid clients in the U.S., Canada, Switzerland and U.K. Three of our clients have engaged us to write "custom studies" on pre-production mining stocks without any U.S. or global research coverage, including Skye Resources (an 11 bil lb nickel resource in Guatemala), Mercator Minerals (a copper-moly restart in Arizona) and JSW Steel's 70%-owned Minera Santa Fe (48 sq km undrilled magnetic anomaly and associated iron ore properties in 3rd Region of Chile).

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"John Tumazos Very Independent Research, LLC" (JTVIR) is a Delaware Corporation formed July 6, 2007 with registration effective on August 27, 2007 as an investment advisor in the state of New Jersey owing to our place of business in New Jersey.

JTVIR is not a broker-dealer, and conducts no trades. Its primary business is to provide "unbundled" metals, paper and fertilizer industry securities and market research to institutions or corporations in a zero commission, electronic execution, electronic dissemination, unbundled format for a specified annual fee structure.

Our investment rating system for securities recommendations is Overweight, Neutral Weight or Underweight. Overweight or Underweight recommendations are estimated to vary from the relative performance of the S&P 500 by more than 10% annually, and the intended time horizon is up to 24 months. Our securities research is intended for institutional investors that might buy up to 10% of a given company, and as such focuses more towards longer-term dynamics impacting the net present value of future cash flows rather than "day trading" sorts of near-term issues.

Except for WestRock, Graphic Packaging, South32, Teck, Glencore, First Quantum, Grupo Mexico, Worthington Industries, Pan American Silver, Centerra Gold, Paramount Gold Nevada, Fortescue Metals, Akora Resources Ltd, Nomad Royalty, Ely Gold RoyAlties, OceanaGold, Yamana Gold, Alamos Gold, Silvercorp Metals, Fresnillo Silver, SilverCrest Metals, Pan American Silver Escobal mine contingent value right, Sandstorm Gold Royalties, Osisko Gold Royalties, Osisko Mining, Kirkland Lake Gold, Texas Minerals Resources Corp., Galway Gold, Galway Metals, TBT Treasury Short ETF neither JTVIR, its members or is employees own or have a financial interest in any securities discussed in this report or any reports we have published recently. Our policy is full disclosure.

As of mid-2018, my son Charles Tumazos took full control of accounts in his name after age 30. He elected to become a paid subscriber to my research, where he controls his accounts and makes his own decisions. Going forward, we will disclose John Tumazos' personal holdings and exclude "family accounts." Our positions will be a little smaller.

Our policy permits personal trading in the metals or paper industries. Our policy is that any personal trading must be consistent with our recommendation, made two business days or more AFTER a recommendation or change in recommendation and held for a minimum of 30 days or one month. We believe it is virtuous for a securities analyst to "put his or her money where his mouth is" to invest consistent with the recommendation to clients after such recommendation has been made, and we disagree with some restrictions made upon broker-dealer employees after 2000 era scandals.

However, our policy permits up to one directorships and up to five consulting projects, advisory assignments or financial advice to corporations. Our policy is full disclosure of any advisory relationship or conflict going back three years.

Numerous prior investment banking relationships existed prior to three years history to the pre-1997 time frame under the employment of Donaldson, Lufkin and Jenrette or Oppenheimer & Co., Inc. Some of these we can recollect included 14 different gold mine valuations or sales for Barrick Gold, LAC Minerals (later acquired by Barrick), Addington Resources (gold assets in Montana acquired by Canyon Resources), Westworld Industries (Bolivian assets acquired by Battle Mountain Gold later acquired by Newmont Mining), Coeur d'Alene Mines, Crown Resources (acquired by Kinross Gold), Freeport-McMoRan Gold (acquired by Minorco later AngloGold later Queenstake Resources), FMC Gold (later renamed Meridian Gold) and others. Sole managed initial public offerings included Reliance Steel & Aluminum and Huntco. Lead-managed initial public offerings included American Steel & Wire (later acquired by Birmingham Steel) and lead-managed underwritings included Quanex. Co-managed underwritings included the IPO of Century Aluminum and Grupo Imsa and offerings for AK Steel, Kaiser Aluminum, Agnico-Eagle Mines, Cameco and others. Asset sales or purchase advisories, fairness opinion or trusteeships were done for Thypin Steel (sold to Ryerson Tull), Cyclops Corp. (sold to Armco later sold to AK Steel), Allegheny Corp., Bethlehem Steel, the U.S. Dept. of Justice pursuant to the June 1984 merger of LTV and Republic Steel to sell the Gadsden, AL integrated flat-rolled mill, Cobre Copper, and others. Some examples we can recall of incomplete transactions for which a prospectus was either drafted or partly drafted indicating much work included stock underwritings not completed for Wheeling-Pittsburgh Steel, Steel Dynamics, Atlas Corp., Webco, Sharon Steel, IPSCO, Co-Steel Inc., and others.

ANALYST UNIVERSE COVERAGE:

John C. Tumazos, CFA as of June 2007: Rio Tinto, Louisiana-Pacific, Nucor Corp., Newmont Mining, U.S. Steel, International Paper, BHP Billiton, MeadWestvaco Corp., Antofagasta PLC, Allegheny Technologies, Alcoa Inc., Inco Limited, Bowater, Temple-Inland, Barrick Gold, Abitibi-Consolidated, Weyerhaeuser Co., Alcan Inc., Smurfit-Stone Container, Plum Creek Timber, Worthington Industries, Goldcorp Inc., AngloGold Ashanti, Freeport-McMoRan Copper & Gold, and FNX Mining. Dynatec, Alcan and Bowater are companies not continued in the research coverage of JTVIR, LLC that was previously included in the prior June 6, 2007 Prudential Equities Group universe owing to takeovers. Smurfit-Stone Container and AbitibiBowater were dropped from JTVIR research coverage after they entered bankruptcy. Skye Resources, FNX Mining, QuadraFNX Mining, Thompson Creek Metals, Duluth Metals, Xstrata, MeadWestvaco, Smurfit-Stone Container (new), Goldcorp, Detour Gold, Norbord were dropped after full coverage initiation due to takeover. We later dropped Greystar Resources/ Eco-Oro, General Moly and PolyMet Mining from coverage as their project delays extended beyond one decade.

Subsequently, since September 2007 JTVIR, LLC has initiated regular coverage of new companies not previously covered in the former universe at the former Prudential Equities Group. These new companies include CF Industries, Mosaic, Franco-Nevada, Silver Wheaton, Royal Gold, Osisko Gold Royalties, Sandstorm Gold, Detour Gold, South32, Teck, Agnico-Eagle Mines, Mercator Minerals, Skye Resources, General Moly, Inc., Thompson Creek Metals, Duluth Metals, Polymet Mining, Greystar Resources, Vale, GlencoreXstrata, Glencore, Xstrata, Anglo American, Packaging Corp. of America, Norbord/West Fraster, Rock Tenn/WestRock, HudBay Minerals, Alumina Ltd., Fortescue Metals, and Century Aluminum.

In accordance with applicable rules and regulations, we note above parenthetically that our stock ratings of "Overweight," "Neutral Weight," and "Underweight" most closely correspond with the more traditional ratings of "Buy," "Hold," and "Sell," respectively; however, please note that their meanings are not the same. (See the definitions above.) We believe that an investor's decision to buy or sell a security should always take into account, among other things, that the investor's particular investment objectives and experience, risk tolerance, and financial circumstances. Rather than being based on an expected deviation from a given benchmark (as buy, hold and sell recommendations often are), our stock ratings are determined on a relative basis (see the foregoing definitions).

There is no intention to "balance" the number of Overweight or Underweight ratings, as instances of broad over- or under-performance among basic industrials may occur. JTVIR makes each investment judgment in a "bottoms up" manner based on the assets of each individual company.

Price Target – Methods/Risks

The methods used to determine the price target generally are based on future earning estimates, product performance expectations, cash flow methodology, historical and/or relative valuation multiples. The risks associated with achieving the price target generally include customer spending, industry competition and overall market conditions.

Additional risk factors as they pertain to the analyst's specific investment thesis can be found within the report.

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Additional information on the securities discussed herein is available upon request. The applicable disclosures can be obtained by writing to: John Tumazos Very Independent Research, LLC, 11 Yellow Brook Road, Holmdel, NJ 07733 Attn: John C. Tumazos.

BOARD OF TRER AUGUST 6, 2012 TO MAY 27, 2013

On August 6, 2012 we joined the board of Texas Rare Earth Resources, and were elected Non-Executive Chairman. We made an early stage investment in the company after it obtained its core property in the fourth-quarter of 2010, and we and other activist shareholders believed there was room for improvement in its business plan and performance in 2012. We did not expect our participation in TRER to be indefinite, and believed that it will seek a larger mining company to help it complete its projects.

On May 27, 2013 we resigned from the Board of Texas Rare Earth Resources. We were pleased that metallurgical research into sulphuric acid heap leach processes made advances, which determined an alternative process requiring 10% to 20% of the cap ex proposed in the prior June 15, 2012 NI 43-101 study. The 2010 identification and possession of the property and the 2013 metallurgical advances added value, and we thought a larger organization would better develop the production plant.

We declined all other invitation to join Boards of Directors. We do not want distractions or other activities to weaken JTVIR, LLC. Further, we have a "team psychology" and a large commitment to one another within JTVIR, LLC.

JTVIO

John Tumazos Very Independent Opinions, LLC (JTVIO) is a separate company providing various services "other than" investment research sold to institutions in JTVIR. Counsel advised any other activities be organized separately. Such other activities have involved < 5% of our time. Since 2008 we have done such advisories for 18 companies, or 1 or 2 assignments per year typically.

In general, we may provide investment banking or advisory services mostly to sub-$100 mm mining companies that have defined a "deposit," but need more capital after a discovery for infill drilling, bulk metallurgical testing, definitive feasibility study or the capital outlays to build a mine. JTVIO envisions merger advisory, "second opinion" critiques of investment banking advice, strategic consulting, valuation opinions, fairness opinions, mine technical services such as "Third Party Reviews" of technical studies or other corporate services. The "research coverage" of JTVIR largely involves very large companies with completed steel, aluminum, forest products or mine plants with market capitalizations usually between $1 and $250 billion. Historic companies often over one century old, such as Alcoa or U.S. Steel or BHP Billiton, will use top ten commercial or investment banks for advisory services and we make no attempt to be engaged by them owing to their long historic relationships.

We prefer to advise companies without revenues, which large investment banks like Goldman Sachs, JP Morgan, Morgan Stanley or BMO often avoid. Such mining companies without revenues are not as competitively over-banked, and many of the geologists are quite gifted and have extremely promising projects.

We undertook some platinum market studies for Platinum Group Metals in the past year.

We critiqued the NI 43-101 Preliminary Economic Assessment or Feasibility Study for publicly traded Toronto producing companies for copper projects in Argentina and Chle.

We have accepted compensation from Texas Rare Earth Resources, Akora Resources, Galway Metals and Appia Energy, a private concern, related to introducing investors to them.

In August 2011 we advised the Board of Directors of Augen Gold that a hostile tender offer from Trelawney Mining. On October 9, 2010 we were engaged by Tara Gold Resources to evaluate the fairness of their September 13, 2010 proposed merger to amalgamate with Tara Minerals, which it terminated on March 7, 2011.

We delivered a "structure opinion" to Tara Gold Resources and Tara Minerals on May 20, 2011 that the cancellation of the announced September 13, 2011 merger was "fair." On June 24, 2010 we delivered a Fairness Opinion to the board of directors of Paramount Gold and Silver for compensation in their acquisition of X-Cal Resources, Ltd concerning the Sleeper gold mine near Winnemucca, NV formerly operated in 1986-1996 by Amax Gold and having past output of 1.66 mm oz gold and 2.3 mm oz silver plus 26,000 oz of placer gold almost one century ago. We provided a valuation opinion in 2016 for Belvedere Gold for a gold exploration property in Finland. We provided a valuation opinion for an SEC filing for a trust for a gold deposit in Lemhi County, Idaho in September 2017. We attempted to market and valued a 350,000 oz heap leach gold deposit in Ely County, NV in 2017-18.

In January 2020 we advised a partnership of landowners as a 1/7th co-owner in the sale of 82 acres adjoining the northwest of the FCX Morenci open pit, called "American Mountain," to Freeport-McMoRan Inc. In 2017-18 we advised some partners on the royalty of the San Juan open pit of FCX's Safford mine, who failed to pay us.

On October 6, 2010 we were engaged by Dorado Ocean Resources Limited, a privately held company. That assignment has concluded without success or compensation.

Since 2016 we have provided strategic advice to Granada Gold Mine.

On June 3, 2008 Galway Resources engaged JTVIO to commercialize its Victorio, New Mexico molybdenum-tungsten deposit containing over 200 mm pounds of each mineral in situ, which is JTVIO's first activity (see www.galwayresources.com June 3, 2008 press release). We have received compensation from Galway Resources.

These past engagements pose no "conflict of interest" with JTVIR research coverage as long as JTVIR does not cover or write on Paramount Gold and Silver, Galway Resources, or other sub-$250 mm market cap emerging companies. However, subsequently Galway Resources has documented gold occurrences on Galway grounds and begun drilling. After our November 6-12, 2009 trip to the California gold district of Colombia, we published research reports on Greystar Resources and NOT Galway Resources to avoid conflicted research. We omitted Galway Resources from our "Conference Highlights" report even though it spoke at our November 19, 2009 conference in a similar vein to avoid conflicted research.

JTACR

John Tumazos Advisory and Compensated Research, LLC (JTACR) is a separate investment advisor registered with the State of New Jersey Bureau of Securities on June 27, 2011 as CRD # 157,606. **Under no circumstances will JTACR be commissioned by a mining or other publicly traded company simply to write a "paid" research report.** Its purpose is to include research reports after separate compensation has been received for an advisory service such as a fairness opinion, mergers & acquisitions advice, introductions of investors in a capital raising or other advisory services. Regulators presume that any "compensation" or potential compensation biases research reports, however small, and outside counsel advises us that we should not write about a company as "John Tumazos Very Independent Research, LLC" if compensated or seeking compensation.

We have created a separate web site, www.advisoryandcompensatedresearch.com to support JTACR. It is separate from our normal research investment advisor site, www.veryindependentresearch.com. Since the second half of 2011 JTACR has published research reports on Texas Rare Earth Resources, Texas Mineral Resource Corp., Akora Resources Ltd., Paramount Gold and Silver, Paramount Gold Nevada, Galway Resources, Galway Gold, Galway Metals and Platinum Group Metals. These represent < 10% of our company research and < 5% of our written research report output.

POTENTIAL MONEY MANAGEMENT ACTIVITIES

We manage my own money and one client account. Our trades conform to our published research and follow publication by a minimum of two business days. Client recommendations have first priority.

In November 2011 we accepted our first customer money management account, and we are beginning to set up an account and legal agreement to manage money for him. We are in the process of completing such paperwork.

Money Management for clients could be another line of business. “Mine Development Fund” is a “current” project to establish a small fund to invest in post-discovery, large resource companies (over $2 billion in situ mineral value already defined) requiring financing to “build the mine” and grow. The target market cap of the companies in which it would invest would be $0.1 to $10 billion. Our detailed studies of emerging mines may prove synergistic across several applications. We have also considered creating sector ETFs, but determined there is more value-added in fund management.

Our published over 3,000 research reports to Since July 7, 2007 has concentrated on the metals commodities themselves, steel, aluminum, forest products and larger capitalization mines like Rio Tinto, BHP, Freeport-McMoRan Copper, Barrick Gold, etc. Only 7%-10% of our written research involves the “sub-$2 billion mine” size range that would be the focus of either JTVIO or Mine Development Fund. Thus, compliance issues or conflicts of interest would occur in a smaller subset of JTVIR coverage as JTVIR coverage involves larger caps, “established processing companies” or commodities. JTVIO or the buy-side investing may focus on much smaller companies

POTENTIAL MINE SERVICES ACTIVITIES

We delivered a written critique for two NI 43-101 compliant studies of copper deposits in Argentina and Chile for publicly traded companies based in Toronto. One was a second preliminary economic assessment for a deposit with approximately 30 billion pounds of copper and 5 mm oz of gold. The other was a definitive feasibility study to expand a small open pit and underground copper mine with an established production history.

As a substantial user of mine feasibility study reports or other technical reports prepared at early stages after first discovery, sometimes we are very dissatisfied. We may from time-to-time provide “Third Party Review,” critique such mine scoping study or prefeasibility study reports. We do not seek to “second guess” scientific issues of mine engineering or metallurgy. However, we may differ with the mathematics of reserve determination, capital cost estimates, “simultaneity” of price and cost assumptions, various business planning issues, the opportunity to “phase” or subcontract to reduce initial capital costs or other financial issues. The “custom studies” we have provided to several buy-side JTVIR customers may resemble “Mine Services” future products presented as “Third Party Review” of mine technical studies.

CONFERENCES, RADIO SHOWS OR OTHER MEDIA

Since 2008 we have hosted investor conferences as “John Tumazos Very Independent Research, LLC” similar to our having hosted investor conferences or individual meetings since 1982 under the auspices of Oppenheimer & Co., Inc, DLJ, Bernstein or Prudential Financial in earlier employment. We have hosted a number of very large companies, including Vale, Teck, Barrick Gold, Agnico Eagle Mines, Yamana Gold, Pan American Silver, HudBay Minerals, Century Aluminum or others. We have found that some of our friends at large companies did not accept our invitations since 2008, however, such as BHP, Rio Tinto, Alcoa, U.S. Steel, Freeport-McMoRan Inc. or others.

Beginning in 2008 we began to invite companies with a "resource deposit" scrutinizing their NI 43-101 or JORC compliant resource statements, preliminary economic assessments (PEA), prefeasibility study or feasibility study documentation. Our two principal criteria are (1) a documented mineral resource > US $3 billion and (2) a "business plan" or coherent strategy to make money. However, we make exceptions for (1) the next project or spinoff of a successful geology group after they have sold a discovery for an epic large sum, (2) a project adjoining a fertile known property, (3) a restart of a historic mineral district of the 19th or 20th century, or (4) occasionally a photograph or other evidence of a bulk mineral occurrence. We reject geology theories or early stage ideas in most cases.

We manage our conferences to "maximize information content" or learnings focusing on mineral properties that interest us. We manage our conferences for the (1) benefit of the investors that pay us for advice, (2) for the benefit of the speaking companies many of whom are our friends, (3) to learn and invest ourselves and (4) to advertise our small enterprise to win future research, money management or corporate advisory customers. We screen the companies we host, but our hosting a meeting or virtual meeting for a company **does not constitute a buy or sell recommendation**. Very often we may find a company or project "interesting," and are just learning more about it or getting to know it as a stage in our learning process. We are blessed that many famous geologists from around the world speak at our programs or listen to the webcasts we host.

Since 2008 we operated our conferences on a "Dutch Treat" basis, asking the companies to pay their portion of the catering, hall rental, webcasting and various other hard expenses plus a month of my payroll or overtime bonus to our team. Since we moved to the suburban Greek Orthodox church hall in Holmdel, NJ or in 2020-21 in a virtual meeting format our costs fell and the size and popularity of our programs has increased. While it was not our strategy to run our conferences as a primary business, they have grown and become profitable. While it is not our intent to be an "investor relations" company, our meetings have become immensely popular both with the companies we host and the investor audience. It appears both the companies we host and the audiences appreciate our detailed questions about resource estimation, gold mine geostatistics, geology, costs, feasibility study details, mine engineering, end markets or other opportunities.

Since 2008 we have hosted 96 companies bought out for U.S. $77 billion combined at our conferences. These included 56 gold deposits or miners and 40 companies in other minerals or formats such as copper, ferroalloys, energy minerals, silver, PGMs, royalties, a phosphate deposit or a national steel distributor. The majority of these have been in Canada, the U.S. or Mexico, but there have been a few across Latin America, Africa, or elsewhere around the world. Ontario, Quebec, British Columbia, Alberta, and Nevada are notable areas where we have found many successful investments. Our screening strategy of a focus large undeveloped deposits has been useful to identify the companies large mines buy out if they need new deposits to grow or replace depletion. Our focus on geology and willingness to ignore low market capitalization, ignore the absence of revenues and willingness to ignore $0.2 to $5+ billion initial capital needs has been effective. The future acquirers fund the constructions.

Our policy has been to host open public webcasts for many reasons including the benefit of the speaking companies, to help make our small business better known or to comply with SEC Regulation FD for fair disclosure. We seek to grow all of our efforts or businesses by "word of mouth" or good reputation. We have learned that companies that resist an open public webcast may be "toxic," or suffer some labor relations, environmental or other defect. Recent rebounds in metals prices or stocks have made our webcast followings larger growing from about 1,000 in 2018 from 40 nations to 1,700 in 2019 from 49 nations to 2,600 in 2020 from 64 nations where we exclude employees of the participating companies or in 2020 we excluded 1,030 listeners to Northern Dynasty some of whom were environmental opponents or job seekers rather than investors. In 2021 our roster of speakers grew to at least 66 companies as of February 2021 from 46 in 2020, and the listeners may grow once again.

Since 2017 representatives of WABC radio approached us to help introduce companies to them to present in radio shows. They attended our conferences to identify subject matter for John Batchelor or Larry Kudlow's business shows. They offered me appearances or advertising time, but we had reservations about "mass market inquiries" from individual unable to buy our services. WABC never paid us or proposed to pay us. Our impression is that Bloomberg, WABC or other media companies have a large access to unpaid speakers seeking exposure.

In 2021 VoiceAmerica Business channel approached us to have radio shows. Our friend, Jay Taylor, writes a newsletter and it turns out since 2009 he has had a radio show on VoiceAmerica Business for whom he gave a good reference. We are studying going forward on the same basis or terms as VoiceAmerica Business has with Jay Taylor.

In 2021 we organized our virtual conferences into February, April, June, August, October and December two day sessions with up to eight companies per day at 75 minute intervals, which is a "capacity" for up to 96 companies where we expect we will schedule perhaps over 80 of the time slots. Some companies have asked us to host multiple meetings for them in 2021, but we want to host DIFFERENT companies to learn about more investment ideas. But this illustrates a larger "pent up interest" in such activities.

For 2021 we host our video conferences for free for companies > US $3 billion market value, which we regard and execute "just like a research interview." We should embrace such opportunities as research analysts to learn and be better investors. For smaller companies we charge US $2,700 for repeat companies and $3,500 for first-time companies as we spend much time learning about them to vet them. We deliberately charge < ½ as much as investor relations firms that often charge US $6,000 for a meeting, an annual contract or ask for warrants or options too. We want to pick good companies and for the good companies to find us or call us preferentially.

For 2021 as we investigate VoiceAmerica Business channel, we may offer our first shows to companies among the 66 we already scheduled to host for our conference series. We will probably limit about 5% of our business time to hosting conferences and less than 5% for radio media, as we want investment research and portfolio management to be our principal activities.

However, these are "sponsored" radio shows. We will not ask the companies in our full research coverage to "sponsor" a radio show, banner ad or other media. For 2021 FNV, WPM, RGLD, OR, SAND, AEM and PAAS are the conference companies that we will not accept such radio sponsorships from as we want to continue to write research reports as "John Tumazos Very Independent Research, LLC" without accepting compensation or without an ethical conflict. We will only have radio or other sponsorship with smaller companies which will be disclosed.