

GRAFTECH (EAF \$1.63, not rated) OUR PUBLIC LETTER TO MANAGEMENT

April 11, 2024

Timothy K, Flanagan  
President and CEO, GrafTech International  
982 Keynote Circle  
Brooklyn Heights, OH 44131

Dear Tim, the Board and Fellow Shareholders,

My letter concerns issues of marketing strategy, competition, finances and governance seeking to help improve your direction and success. My letter is also addressed to fellow shareholders, acknowledging that the Board does not hold much stock. I own 129,145 shares and control additional shares in money management accounts.

We are optimistic about the long run outlook for graphite electrodes based on the 25+ million tons of new electric arc furnace capacity additions ongoing in Ontario and the USA locally, the global swing to EAFs to decarbonize to replace coke ovens and blast furnaces, the longer melt cycle of DRI feeds, the research into electric steel refining furnaces such as RIO, Boston Metals and others promote, the longer melt cycles of electric steel refining furnaces, Alcoa's electric calciner design in its "alumina refinery of the future," EVs and other electrification efforts. These trends all require more electrodes.

However, GrafTech's volumes fell to 91,000 t in 2023 from 182,000 t in 2018, and your shares fell from \$21 in 2018 to \$1-2 even as the S&P 500 or key potential customers NUE, STLD, CMC or others made share price records. We attach spreadsheets at the end of our letter describing recent volume and revenue trends.

We make a few specific suggestions hoping for the speedy recovery of your company. GrafTech needs to begin with a "clean slate" with customers operating for the first time in many years without the LBO firm Brookfield, where you should emphasize a renewed emphasis on long-run good management without short-term pressures from an exiting controlling owner. This is a one-time opportunity "to right the ship," change past errors in management policy and communicate a "catharsis" to your stakeholders.

**STRONGER FINANCES IMPORTANT**

GrafTech should issue equity to strengthen its balance sheet, where a rights offering is a fine approach for existing shareholders to contribute capital to avoid dilution. Another good alternative is sell equity to large customers or potential customers intending to be long-term owners or partners in order to bond, strengthen or repair relationships "with goal congruence." In my opinion GrafTech should bypass traditional stock underwriters or equity-for-bond swaps.

It is important for GrafTech to weather lower prices in 2024 or 2025 in order to prosper from the attractive long-term future for electrification. Further, competitors exaggerate fears of your \$950 mm debt level to win customer orders and convince their own employees to decline your job offers. A larger equity cushion will help refinance to stretch out the 2028 maturities.

Over the recent decade competing needle coke and graphite electrode excess capacities developed in China, India, and elsewhere to challenge historic competitors in Japan, EU or North America. The Asian competitors do not face stock market pressures concerning quarterly earnings, do not face antitrust enforcement or may roll over debt easily from government banks or trading group affiliates. GrafTech must operate with a visibly strong balance sheet stronger than the past so as to avoid attracting predatory pricing from Asian competitors as well as short-term short sellers in financial markets.

#### EMBRACING SHAREHOLDER INTEREST

It saddens me that you rejected Nilesh Undavia's offer to join your board, where a 6% personal ownership from a veteran institutional investor is a wonderful endorsement. Further, it confuses me that you spend probably close to \$1 mm of shareholder funds opposing his proxy campaign, where shareholder funds are precious as losses loom. Your efforts alienate your institutional shareholders, and actually strengthen your opposition.

#### CHANGES WITH BROOKFIELD EXIT

We rejoice that GrafTech is "cancer free" as of the December 14<sup>th</sup> announcement of Brookfield to distribute its 25% stake to limited partners, board resignation and exit, where subsequent filings suggest no 5% holders remain from Brookfield. Certain subsequent GrafTech actions should rebuild customer, employee and stock market confidence in long-term commitment, which is an excellent opportunity to rebuild sales, research or other important human capital within GrafTech and loyalty among your customers. The enforcement of long-term sales agreements in 2022, which upset some customers, appears consistent with Brookfield's desire for short-term revenue maximization to complete its recent exit.

In my opinion, you should sue Brookfield on behalf of public shareholders for certain potential abuses, such as the 2018 GrafTech buyback of its shares at a \$21 record price from Brookfield not offered to public shareholders. In my opinion, this was an "ill gotten gain" and "self-dealing." Such monies could help repair your balance sheet.

#### CLEARER DISCLOSURE AS PAST OBFUSCATORY PRACTICE ENABLED BROOKFIELD SALES AHEAD OF MARKET SHARE LOSSES

Your disclosures obfuscate your sales mix, which only deny information to public shareholders and expose GrafTech to liability for insufficient disclosures. It gives the

appearance that all of Brookfield's share sales benefited from inside information of GrafTech's market share collapse from 2018 peaks. In effect, you break down that about ½ of sales are in the Americas and ½ in Europe/Mideast, where sales to Asia are very small. In my opinion, you should break down each sales region into at least 3 subcategories to tell your shareholders how the company is doing, where clearly the competitors eating your lunch know the outcomes.

Clearer disclosures may help GrafTech to defend from future repetitions of dozens of recent shareholder lawsuits. For example, your shares fell almost \$1 after the earnings report last November 3<sup>rd</sup>, which was not so eventful. We wonder if those sellers knew on November 4<sup>th</sup> that GrafTech fell perhaps 95% short of its sales target in Nucor's annual electrode allotment for 2024 impacting the year to come. We hope better disclosures greatly reduce future legal and directors insurance costs.

### MOST IMPORTANTLY, PLEASE IMPROVE MARKETING PRACTICES

The irony of GrafTech suffering a 50% volume decline as new electric arc furnaces sprout like Spring tulips made me very curious. We enrolled in a one week class in "Modern Electric Arc Furnace Steelmaking" two months ago simply to ask steel melters why they buy from your competitors more than GrafTech. It shocked me that GrafTech was visibly absent from the Louisville, KY gathering of your customers.

First, it is urgent to repair and improve your business relationship with Nucor, whose alumni are key decision-makers at STLD, Big River Steel or elsewhere. Recently they prefer Tokai Carbon or Resonec, where simply winning one-third of Nucor's business would add over 1/10<sup>th</sup> to your volumes. The relationship appears "estranged" as though either GrafTech gave up, Nucor "blacklists" or boycotts you or all of the above.

Second, GrafTech's marketing efforts lag competitors. For example, Tokai Carbon's sales manager ran the Assn. of Iron and Steel Technology's Feb. 5-9, 2024 course in Louisville, KY "Modern Electric Arc Furnace Steelmaking" whose 218 attendees were about ½ domestic and ½ overseas. We met personnel as distant from Tata Steel in India, Voest-Alpine of Austria that invented basic oxygen furnaces circa 1950 or Algoma Steel converting to EAFs right now. Tokai Carbon told us afterwards that it made 3 sales at the program, where GrafTech did not embrace this opportunity to join its customers and was not even listed as a donor to AIST.

Third, GrafTech must recognize that key competitors are proactive, and do certain things to help their cause. Tokai Carbon's HQ in the U.S. is in Charlotte, NC convenient to Nucor. Resonec's U.S. manufacturing location in Ridgeville, SC is very near to several plants of Nucor and the Cayce, SC plant of CMC, for example. Both are prominent donors to AIST and contributors to the recent February AIST class in Louisville, KY on electric furnace steelmaking. GrafTech must make extra efforts to compensate or overtake those competitors' marketing advantages.

Fourth, the most important criteria in selecting the new key executives should be existing relationships with key customers, the ability to win new sales and repair relations with key customers lost. The Board's selection of the prior CEO Marcel Kessler baffles me, where his prior employment at McKinsey or as CEO of Pason Systems data firm reselling wellhead data back to oil producers suggests no relevance or market knowledge to sell electrodes to steelmakers. Marcel Kessler's tenure coincided with several setbacks.

Fifth, certain end market regions appear not accessible owing to sanctions on Russia and Iran and the prominence of needle coke and graphite electrode competing capacities in China, Japan and India and also your freight disadvantages to Asia. Moreover, these 5 nations represent were the #1, #2, #3, #5 and #10 largest world steelmakers in 2023 accounting for 73% of world crude steel output. This suggests GrafTech must emphasize marketing to tariff protected areas like USA, Canada, EU, etc. or the #4 steelmaking nation USA, #6 South Korea, #7 Germany, #8 Turkey, #9 Brazil, or across the Third World. It underscores the importance of repairing relations with obvious large potential customers like Nucor or a focus on companies installing near electric arc furnaces such as NUE, STLD, CMC, MT, Algoma, Tata and others.

Yours truly has been a steel industry analyst for 45 years, and my father worked 27 years for U.S. Steel 1942-68. For example, Robert Crandall, a Brookings Institution economist, cited me, Shearson Lehman's Joe Wyman, Nucor's Ken Iverson and Florida Steel's Ed Flom in his 1986 book "Rise of the Steel Minimill." We operate our own firm since 2007. We hope for your success, and share our observations freely.

Faithfully,

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Table 1: GrafTech Quarterly Results															
	Sales	CGS	Depn	Interest	EBITDA	Pretax	Net	Shares	EPS		Gross	EBITDA	Tonnes	Price/	CGS/
				net		Inc	Income				Margin	Margin	Sold	tonne	tonne
4Q24	118	123	14	15	-23	-52	-41.6	257	-\$0.16		-4.2%	-19.5%	25000	4,720	4,920
3Q24	123	127	14	15	-22	-51	-40.8	257	-\$0.16		-3.3%	-17.9%	26000	4,731	4,885
2Q24	127	130	14	15	-21	-50	-40	257	-\$0.16		-2.4%	-16.5%	27000	4,704	4,815
1Q24	125	124	14	15	-17	-46	-36.8	257	-\$0.14		0.8%	-13.6%	25000	5,000	4,960
4Q23	137.145	130.557	13.836	13.974	-22.759	-36.602	-217.41	257.21	-\$0.85		4.8%	-16.6%	24100	5,691	5,417
3Q23	158.992	140.649	16.954	14.575	-1.336	-32.865	-22.621	257.09	-0.09		11.5%	-0.8%	24,200	6,570	5,812
2Q23	185.561	143.611	13.605	13.665	21.748	-5.522	-7.851	257	-0.03		22.6%	11.7%	26,400	7,029	5,440
1Q23	138.802	101.868	10.777	12.434	12.939	-10.272	-7.369	256.98	-0.03		26.6%	9.3%	16,900	8,213	6,028
														avg	5,537
4Q22	247.519	149.704	13.788	9.25	86.465	63.427	50.331	256.9	0.2		39.5%	34.9%	27,800	8,904	5,385
3Q22	303.84	170.171	13.262	5.826	127.58	108.49	93.451	256.85	0.36		44.0%	42.0%	35,700	8,511	4,767
2Q22	363.646	187.484	14.012	7.541	157.972	136.42	115	258.85	0.44		48.4%	43.4%	42,300	8,597	4,432
1Q22	366.245	176.78	14.434	9.114	167.528	143.98	14.183	262.66	0.47		51.7%	45.7%	43,300	8,458	4,083
4Q21	363.293	165.485	17.301	14.332	195.247	163.61	141.48	263.52	0.54		54.4%	53.7%	44,200	8,219	3,744
3Q21	347.348	154.702	15.584	15.631	173.021	141.81	119.89	267.18	0.45		55.5%	49.8%	43,000	8,078	3,598
2Q21	330.75	185.575	16.292	15.795	144.651	112.56	114	267.81	0.43		43.9%	43.7%	43,000	7,692	4,316
1Q21	304.397	129.857	16.539	22.13	153.725	115.06	98.799	267.47	0.37		57.3%	50.5%	37,000	8,227	3,510
4Q20	338.01	144.596	17.889	28.88	185.698	138.93	125.1	267.32	0.47		57.2%	54.9%	37,000	9,135	3,908
3Q20	286.987	115.621	16.241	22.381	150.96	112.34	94.234	267.28	0.35		59.7%	52.6%	33000	8,697	3,504
2Q20	280.718	116.051	14.549	20.532	147.645	112.56	92.278	267.26	0.35		58.7%	52.6%	31,000	9,055	4,012
1Q20	318.646	124.368	14.284	24.531	185.029	146.21	122.27	269.32	0.45		61.0%	58.1%	34000	9,372	3,658
4Q19	414.612	163.89	15.432	28.06	225.699	182.21	174.92	285.08	0.61		60.5%	54.4%	41000	10,112	3,997
3Q19	420.797	163.14	15.357	30.038	242.026	196.63	175.88	290.13	0.61		61.2%	57.5%	40000	10,520	4,079
2Q19	480.39	181.602	15.445	32.238	281.818	234.14	196.37	290.57	0.68		62.2%	58.7%	48000	10,008	3,783
1Q19	474.994	179.939	15.585	33.286	278.725	229.85	197.44	290.57	0.68		62.1%	58.7%	45000	10,555	3,999
4Q18	532.789	195.692	18.667	34.085	295.308	242.56	229.63	290.56	0.79		63.3%	55.4%	53000	10,053	3,692
3Q18	454.89	164.23	16.05	33.293	274.406	225.06	200.19	296.15	0.67		63.9%	60.3%	42000	10,831	3,910
2Q18	456.332	150.542	15.368	28.276	228.143	184.5	201.45	302.23	0.67		67.0%	50.0%	45000	10,141	3,345
1Q18	451.899	128.821	16.328	37.75	304.768	250.69	222.05	302.23	0.74		71.5%	67.4%	42000	10,760	3,067
4Q17	192.473	117.223	15.461	7.508	65.914	42.945	55.628	302.23	0.18		39.1%	34.2%	43000	4,476	2,726
3Q17	137.245	101.751	18.669	7.736	22.486	-5.19	-3.919	302.23	-\$0.01		25.9%	16.4%	44000	3,119	2,313
2Q17	116.314	90.449	15.985	7.763	11.34	-12.408	-17.383	302.23	-0.06		22.2%	9.7%	44000	2,644	2,056
1Q17	104.739	87.125	16.328	7.423	1.834	-21.917	-26.344	302.23	-0.09		16.8%	1.8%	41000	2,555	2,125

Source: GrafTech, JTVIR, LLC estimates

## 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 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](http://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.

## ORGANIZATION OF JTVIR

John Tumazos Very Independent Research, LLC (JTVIR) organized as a registered investment advisor in the State of New Jersey in 2007 moved to Florida in 2022. We are regulated by the FL Bureau of Securities as of June 2022 after 15 years of operations in the State of New Jersey. We published up to 20 research reports each month covering about 40 to 50 stocks in the metals commodities markets, forest products, aluminum, steel, gold, copper and other mining sectors. We travel abroad or domestically visiting companies, although virtual meetings have become more common after pandemic. We host Conferences each year in which companies make presentations, which are archived for roughly one year at [www.veryindependentresearch.com](http://www.veryindependentresearch.com) under the “conferences” tab.

Currently we have over 20 paid clients in the U.S., Canada, and U.K, but none in FL. 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 3<sup>rd</sup> Region of Chile).

#### JTVIR DISCLOSURES

“John Tumazos Very Independent Research, LLC” (JTVIR) is a Florida Corporation as of 2022 after prior formation as a Delaware Corporation 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, where we moved to Florida in July 2022.

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 Packaging Corp., Smurfit Kappa, South32, Grupo Mexico, Steel Dynamics, Nucor, Commercial Metals, Worthington Enterprises, Worthington Steel, GrafTech, Alpha Metallurgical Resources, Century Aluminum, Alcoa, Alumina Limited, Norsk Hydro, BHP, Anglo American, Glencore, Norilsk Nickel, Polymetal Int’l, Solitario Resources, Agnico-Eagle Mines, Equinox Gold, Paramount Gold Nevada, Fortescue Metals, Akora Resources Ltd, Alamos Gold, Victoria Gold, Fresnillo Silver, SilverCrest Metals, Wesdome Mines, Novo Resources, McEwen Mining, Cerrado Gold, Sandstorm Gold Royalties, EMX Royalties, Osisko Gold Royalties, MAG Silver, Osisko Mining, Rupert Resources, Texas Minerals Resources Corp., North Peak Resources, Montauk

Metals, and Galway Metals, neither JTVIR, its members or its 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 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 directorship 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.

We have enjoyed over 25 corporate advisory relationships since our formation in 2007 often in "pre-revenue" earlier stage resources, which are organized in a separate LLC "John Tumazos Very Independent Opinions, LLC." In 2023 current relationships include North Peak Resources, Granada Gold Mines and Akora Resources Ltd. Past relationships include capital introductions for Galway Metals, Appia Energy, Akora Resources and Texas Minerals Resource Corp. Past Relationships include "fairness opinion" valuations for Augen Gold, Paramount Gold and Silver, Tara Gold, Tara Resources, Belvedere Resources and Lemhi Gold Trust. Past relationships include strategic advisories to Galway Resources, Granada Gold and Platinum Group Metals. Past relationships include formal written critiques of NI 43-101 technical studies for McEwen Mining and Sprott Resource Holdings. Past relationships include asset sales for Romios Gold, Morenci 8 LLC, Minex' Black Horse property in Ely, NV and a Mexican silver deposit.

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 Thyssen 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 Chile.

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 1/7<sup>th</sup> 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](http://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](http://www.advisoryandcompensatedresearch.com) to support JTACR. It is separate from our normal research investment advisor site, [www.veryindependentresearch.com](http://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.

## MONEY MANAGEMENT ACTIVITIES

We manage my own money and several client accounts. Our trades conform to our published research and follow publication by a minimum of two business days with a 30 day minimum holding period for personal trades. 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

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 19<sup>th</sup> or 20<sup>th</sup> 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 112 companies bought out for U.S. \$103 billion combined at our conferences. These included 68 gold deposits or miners, 12 silver, PGM or royalty precious metals companies, 5 hard rock energy and 27 companies in other minerals or formats such as copper, zinc, nickel, moly, 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 to learn from the presentations, to serve our investor clients, 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 63 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 77 companies from 46 in 2020, although the listeners fell with gold prices towards 1,800 from 59 nations.

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.

## RADIO SHOWS AND OTHER MEDIA

We have declined invitations to host or participate in regular radio shows, as we have too many responsibilities to cover 42 large capitalization stocks, keep updated financial models with at least 5 spreadsheets for each large cap company, keep up with supply-demand models in important commodities, host up to 77 mostly smaller companies at our conferences, manage portfolios or undertake corporate advisory projects.

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 liked this format, but simply are spread too thin to undertake such a task presently.