



TO: Investment Partners
 FROM: Emeth Value Capital | emethvaluecapital.com
 DATE: 7/31/2020
 RE: 2020 H1 Letter

Annualized Net Returns to June 30, 2020
(unannualized if < 1 year, inception 12/31/2015)

	<u>Emeth Value</u> <u>Capital</u>	<u>MSCI ACWI</u> <u>Index</u>	<u>Delta</u>
6 Months	-18.74	-6.19	-12.55
1 Year	+9.16	+2.08	+7.08
3 Years	+13.78	+6.24	+7.54
Since Inception	+15.81	+8.68	+7.13

Calendar Year Net Returns to June 30, 2020

	<u>Emeth Value</u> <u>Capital</u>	<u>MSCI ACWI</u> <u>Index</u>	<u>Delta</u>
2016	+9.41	+8.39	+1.02
2017	+39.89	+24.35	+15.54
2018	-17.29	-9.12	-8.17
2019	+88.21	+26.59	+61.62
2020 YTD	-18.74	-6.19	-12.55
Cumulative Since Inception	+93.59	+45.44	+48.15

Foreword

I intend to share the updated results at the outset of each letter. It is worth reiterating that I ascribe little significance to short term results. I look out many years when making investments for the partnership and believe our results are best weighed using a similar time horizon.

Market Myopia & Basic Math

“Despite the temptation to associate intelligence with rationality, in many cases these two characteristics do not go hand in hand. Unlike intelligence, which is associated with proper logical functioning under controlled environments (the famous IQ tests), rationality has only been treated with a scientific bias more recently. The understanding of the limits of knowledge, the reading of the world in terms of probabilities, the ability to isolate ‘noise’, and an open but also emotionally balanced mentality are some

of the characteristics that make up the framework that defines rationality.” (Lucas Beilawski & Bruno Levacov)

In investing, you are always trying to get better prospects than you are paying for, and these odds are rarely presented in step with the consensus. While many investors are content to purchase obviously high quality assets at comfortable prices, few are inclined to pursue surprisingly high quality assets at uncomfortably low prices. As the saying goes, “everyone is a value investor until stocks get REALLY cheap.” At the heart of the matter is the interplay between deeply ingrained behavioral and institutional biases. In the investment management industry, the truth is, social proof is often the principal ingredient for developing conviction. The ability to think independently and the fortitude to weather business risks that come as a result of making what David Swensen calls “uncomfortably idiosyncratic” investments is rare. Furthermore, an enigma exists in investing in that you must wait patiently for a time that offers bargain prices while also enduring the pain that it takes to get to that point first. When buying shares in a business with a falling price, you are unlikely to catch the bottom unless you are already there. This, however, is not meant to be an endorsement for complexity. It is tempting to think what has worked in the past is simple and what has not is complex, when pricing often dictates the opposite. What must be certain in detail at one price can be known in general at another. Indeed, I have often found that the best investments are incredibly simple, relying upon only a few key variables and basic arithmetic. Consider a theoretical business earning \$100 of free cash flow, which grows at five percent per annum. A discounted cash flow analysis would show that this company is worth \$3,500, assuming an eight percent discount rate. Suppose now that this business begins to experience near term challenges. It would not be uncommon to see share prices drop fifty percent or more in the unexpected absence of short term profit visibility. Perhaps in the given scenario, impairment is justified - competitive dynamics change, innovative disruption occurs, and small shifts in valuation for highly leveraged entities can have dramatic effects on the residual interests of equity owners. However, at other times these near term headwinds are understandably transitory. It is at these moments when basic math, rationally applied, can become quite compelling. For example, if this company now earns only half the cash flow we previously expected over the next three years, while maintaining identical earnings power for all subsequent years, then the value of the business falls to \$3,360, only four percent less than our original estimate. Occasionally, Mr. Market calls from the next town over to tell us that a building in our neighborhood is on fire. If I can see from the sidewalk that the opposite is true, you should expect that I will be interested to have a look around.

Thoughts on Quality: The Price of Fragility

Quality is perhaps the most widely sought after investment characteristic and, even still, manages to elude a collective framework. High revenue growth, deep competitive advantages, competent management, and high returns on capital are only some of the ingredients that could be required for qualification. In recent years, “compounders” - a term often used to describe companies with high returns on invested capital and long runways for reinvestment - have captured the imagination of the investing public. When the presumed ability to reinvest cash flows at very high rates is combined with a sufficient number of columns in an excel spreadsheet, one can justify paying nearly anything for an investment. Consider the graphic below.

	Average Quality						High Quality					
	Year 0	Year 5	Year 10	Year 20	Year 30	CAGR	Year 0	Year 5	Year 10	Year 20	Year 30	CAGR
Earnings	\$10.00	\$14.69	\$21.59	\$46.61	\$100.63	8%	\$10.00	\$24.88	\$61.92	\$383.38	\$2,373.76	20%
Multiple at 8% IRR		10.0x	10.0x	10.0x	10.0x			16.9x	28.7x	82.3x	235.9x	

This analysis compares two hypothetical businesses, one of average quality and another of high quality - the “compounder”. We assume here that the high quality business has some timeframe to reinvest cash flows at high rates, in this case twenty percent, before mean reverting to a business of average quality. This mean reversion could be a result of intensified competitive dynamics, the law of large numbers, poor management execution, or numerous other factors. We then calculate the implied purchase multiple an investor should be willing to pay based on the duration of high compounding, an exit multiple of ten times earnings, and a required return of eight percent per annum. We see that the implied purchase multiple increases exponentially as our expected runway for reinvestment lengthens. The problem is that supernormal rates of return are innately ephemeral, and the premise of investing in quality is self-defeating if the price paid creates fragility. For example, we can calculate the embedded margin for error based on an investor that originally expects a twenty year runway for compounding and pays the corresponding 82.3x implied fair value earnings multiple. If this high quality business mean reverts after year seventeen instead of year twenty, the investor would be left with twenty-seven percent less cash flow than they originally forecasted. If instead the runway for high return reinvestment falls short by five years, then more than forty percent of the originally forecasted cash flow would be lost. When dealing with high growth, high expectation businesses, the words of Curtis Jensen, former Chief Investment Officer of Third Avenue Management, ring especially true: “DCF to us is sort of like the Hubble Telescope - you turn it a fraction of an inch and you’re in a different galaxy.” Below I highlight Black Stone Minerals LP, the partnership’s largest and highest quality investment, which is bereft of both sensational growth prospects and an endless runway for reinvestment.

Black Stone Minerals, LP

Overview

Black Stone Minerals is one of the largest owners of oil and natural gas mineral and royalty interests in the United States. They own more than twenty million gross mineral and royalty acres, which are perpetual non-cost-bearing assets located across forty-one states and sixty-two onshore basins. Many of these interests are in active resource plays including the Bakken/Three Forks, Eagle Ford, Haynesville/Bossier, and Wolfcamp/Spraberry/Bone Spring. The breadth of the mineral estate, long lived nature of the assets, and active resource management exposes Black Stone Minerals to growth from new and existing plays without the need to invest additional capital. Tom Carter, the CEO of Black Stone Minerals, owns twelve percent of outstanding common shares and has over forty years of experience in the oil and gas industry.

History

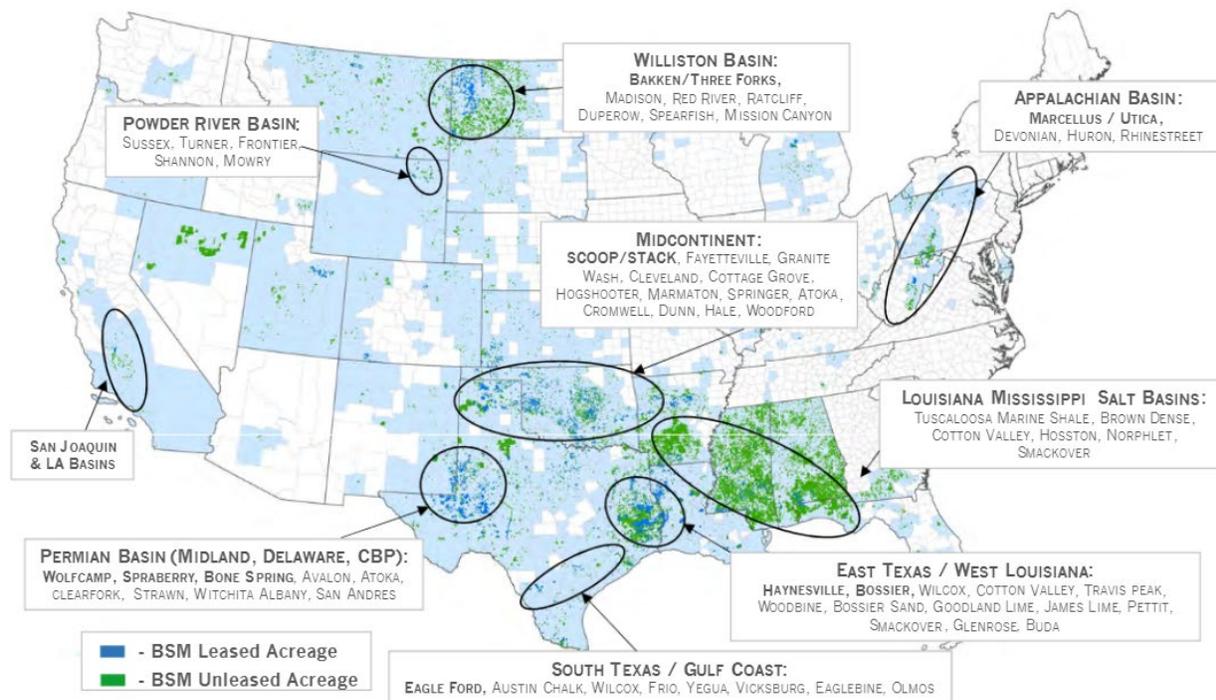
In 1876, W.T. Carter & Bro, the predecessor of Black Stone Minerals, was founded in Southeast Texas as a family operated lumber company. After nearly a century of profitable operations, in the 1960’s, the family began to divest the timber and lumber properties but retained the subsurface mineral interests in order to

pivot towards oil and gas exploration. Black Stone Minerals was formed to develop the prospective acreage throughout the 1980's, which ultimately led to the discovery of the prolific Double A Wells Field in East Texas. In 1992, Black Stone Minerals acquired the mineral estate of the Kirby Lumber Company, which marked its first acquisition of mineral interests and expanded its existing core asset base in East Texas. Over the next several years, Black Stone Minerals shifted its focus away from exploration toward the acquisition of mineral and royalty interests, embarking on a campaign that resulted in approximately \$100 million of transactions. Eventually, Black Stone Minerals began managing institutionally backed private investment funds. The partnership and its fund affiliates invested approximately \$1.2 billion in over twenty transactions between 2002 and 2010. After many years of success, Black Stone Minerals decided to discontinue the private fund business and instead purchase all future transactions directly. Private fund interests were offered an exchange of their fund ownership for cash or equity, and in a robust display of confidence over ninety percent of limited partners elected to receive equity. In 2015, Black Stone Minerals completed its Initial Public Offering becoming the largest publicly traded mineral and royalty company in the United States.

Introduction to Mineral Interests

Mineral interests are real property interests that are perpetual and grant ownership to all the oil and natural gas lying below the surface of a property, as well as the right to explore, drill and produce on that property. Mineral owners typically grant leases to operators under an initial three-year term in exchange for an upfront cash payment known as a lease bonus and a royalty interest entitling the owner to a cost-free percentage of production (usually ranging from fifteen to twenty-five percent). The lease can be extended beyond the initial term with continuous operating activities, but when production or drilling ceases on the leased property the lease is terminated and all mineral rights revert back to the mineral owner who can then lease the exploration and development rights to another party. The market for mineral interests in the United States is large, remains highly fragmented, and is essential to the ongoing operations of energy majors and independents alike. Global consumption of fossil fuels, particularly natural gas, is expected to grow for several decades, and mineral interests occupy an enviable position in the industry value chain. Compared to upstream operators, mineral interests are less sensitive to commodity prices, do not require capital outlay for production growth, and are net beneficiaries of technological innovation. Upstream operators often use debt to fund drilling programs, which are necessary to capture acreage, achieve scale, and replace declining base production. The result is highly leveraged capital structures backed by assets tethered to commodity prices - not exactly a recipe for success. On the other hand, midstream assets share many attractive features with mineral interests. Fee based payments and minimum volume commitments provide stable cash flows that are less sensitive to commodity pricing, and regulatory barriers to entry make competitive dynamics less severe. However, midstream projects are capital intensive, have predetermined growth profiles, and require ongoing maintenance. Mineral ownership uniquely offers both downside protection and the potential for growth without capital. In actuality, three distinct assets comprise Black Stone Minerals' portfolio: mineral interests, nonparticipating royalty interests (NPRIs), and overriding royalty interests (ORRIs). Like mineral interests, NPRIs represent the right, which is perpetual, to receive a cost-free percentage of production from a specified property. NPRIs, however, do not have the associated right to structure and execute a lease or to receive a lease bonus. They are, in effect, minority interests. ORRIs are royalty interests that burden a lease

and represent the right to receive a cost-free percentage of production. These are not perpetual assets but remain in effect until the associated lease expires. Collectively, Black Stone Minerals owns 7.2 million net mineral interest acres, 340 thousand NPRI net acres, and 240 thousand ORRI net acres. This expansive acreage position is diversified by both basin and commodity and has a healthy mix of PDP and non-PDP assets. At present, over seventy percent of Black Stone Minerals acreage position is unleased.



Technology & Innovation - The Shale Revolution

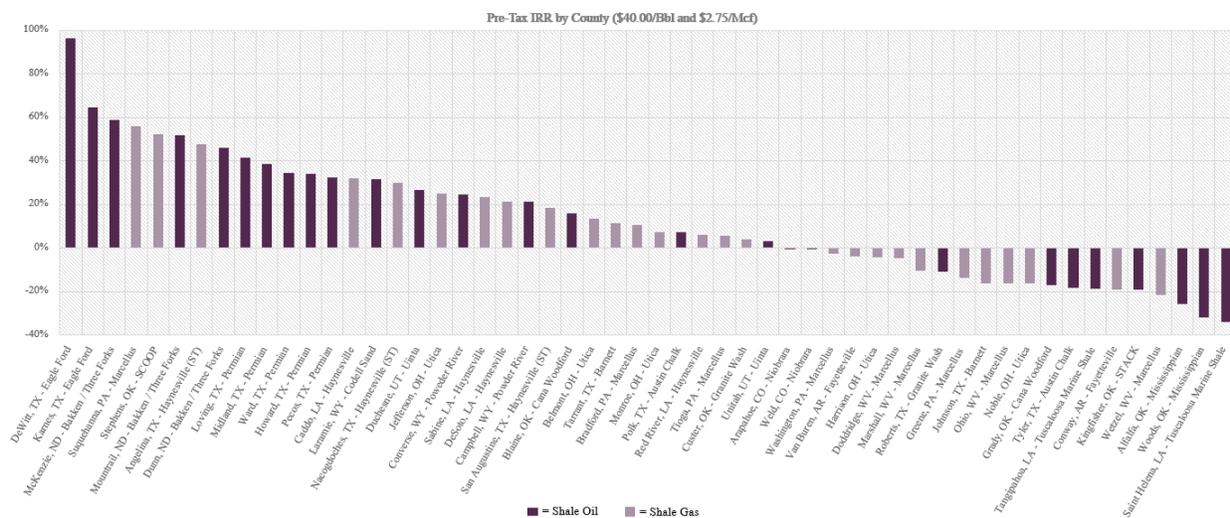
The United States is a legal anomaly in that it is one of the only countries in the world that recognizes the right of individuals to own subsurface mineral interests. Elsewhere, mineral interests belong to the government, which has created a profound structural advantage for the domestic oil and gas industry. Since the nineteenth century, oil and gas entrepreneurs in the United States have intensively delineated geologic formations with the support of private capital markets and a favorable regulatory environment. This cultivated an abundance of geologic expertise, promoted innovation, and necessitated the development of a large network of midstream infrastructure. In addition, more recent advancements in horizontal drilling and hydraulic fracturing have made unconventional resources, such as those found in shale and tight sand formations, increasingly economically viable. Recall that shale formations are typically the source rock for conventional reservoirs. Over millennia and with requisite porosity, hydrocarbons within shale have migrated towards lower pressure through other formations until accumulating beneath a geologic trap. This impermeable layer of rock stops the free flow of hydrocarbons and produces a conventional reservoir, which has been the target of oil and gas operators over the past century. Unconventional drilling, however, exploits shale as both the source rock and the geologic trap. This has led to unprecedented leaps in well productivity and has transformed the United States into a leading global producer of oil and gas. Notably, this success is unlikely to be replicated abroad. Shale deposits are often large geologic formations and require extensive

seismic mapping and appraisal drilling to locate the core of a play. The United States boasts over one hundred years of drilling data across more than sixty onshore basins, an asset that would be challenging to replicate. Moreover, resources must be accessible and in many countries shale deposits are located in densely populated or mountainous areas. Finally, sufficient infrastructure capacity must be present to transport resources, which does not exist in countries without a history of oil and gas exploration. Altogether, these challenges are exacerbated by government involvement, which is often plagued by corruption and inefficiency. In the United States, horizontal shale wells now account for seventy percent of oil and gas production, which is up more than six fold over the last decade. Estimated Ultimate Recovery (EUR) per well has increased at a remarkable pace as operators iterate on completion designs and develop innovative technologies aimed at enhancing recovery. Unfortunately, operators are often caught, as Warren Buffett says, “standing on tiptoe at a parade.” When one competitor adopts a new technology, others do the same with limited value ultimately accruing to the operators as a whole. Mineral owners, on the other hand, benefit from this dynamic. Unlike operators, mineral interests do not have variable costs tied to production volumes, which means they disproportionately benefit from production growth over commodity pricing. In addition, with the passage of time an increasing proportion of acreage inevitably becomes economic as technology improves and as operators allocate capital to delineating emerging resource plays.

Active Minerals Management + Low Cost Core Acreage

Black Stone Minerals’ team of landmen, engineers, and geologists actively promote acreage to industry operators and over time have used creative structures to accelerate the development of key assets. In contrast, other mineral owners take a passive approach, which reflects a proclivity toward substantially leased and producing acreage. Recall that Black Stone Minerals owns over fourteen million gross mineral acres that are not presently contributing cash flow. This significant unleased position has no associated holding cost and provides an avenue for decades of organic growth. Over the last forty years, numerous oil and gas plays have charted the lifecycle from an emerging to breakout to mature play. The next forty years will be no different. The immense breath of this unleased asset ensures that, where emerging plays do breakout, Black Stone Minerals is likely to have existing exposure. Furthermore, this acreage provides an additional opportunity to enhance shareholder value by selectively accelerating this de-risking process. The most prolific example of this is Black Stone Minerals’ Shelby Trough position. The Shelby Trough is on the southern end of the Haynesville/Bossier formation in East Texas and encompasses San Augustine, Nacogdoches, and Angelina counties. Five years ago, Encana and XTO were in the early stages of developing a leasehold position in San Augustine County when Encana decided to exit the natural gas business altogether. XTO was unwilling to move forward without a development partner, so Black Stone Minerals joined the lease on a fifty percent non-operating working interest basis. This commitment was unusual for a mineral owner, but allowed Black Stone Minerals to incubate development that could unlock several decades of drilling inventory. The program turned out to be wildly successful and allowed the team to use early insights from operations to nearly double their acreage position in the surrounding counties. Today, the Shelby Trough is one of the lowest cost natural gas plays in the United States and boasts four of the top fifteen wells in the entire Haynesville shale – a particularly impressive feat given the early stage of development. Black Stone Minerals has witnessed a tenfold increase in production volumes from their

Shelby Trough assets since partnering with XTO and has more than twenty years of low-cost drilling locations remaining across their acreage. In 2017, Black Stone Minerals executed two farmout agreements that released them from their working interest commitments and allowed them to participate going forward as a pure mineral interest owner. A second, smaller example of active minerals management is the PepperJack Field discovery in the Lower Wilcox trend a few counties south of the Shelby Trough. This is an area that Black Stone Minerals has an existing acreage position dating back to 1992. To the northwest, Unit Petroleum discovered the Gilly Field, which is a 500+ Bcfe stacked pay natural gas resource that boasts 10-20 Bcfe EUR wells with high double-digit return profiles. Black Stone Minerals' goal was to develop a Gilly Field analog by mapping the entire Lower Wilcox trend using 900 square miles of 2-D. They discovered multiple prospects, including the PepperJack Field in Hardin and Liberty counties. However, it proved difficult to attract an operator to the play on acceptable terms because the Lower Wilcox is a tight sand formation, as opposed to shale. As a result, Black Stone Minerals decided to drill a well themselves to help market the acreage with more concrete data. The PepperJack A#1 logged three high quality pay zones that mirrored those of the Gilly Field. In addition, results from a third-party evaluation firm estimated the well in the range of 20 Bcfe, a figure that, dollar for dollar, would rival any natural gas play in the country. The PepperJack Field covers 4,000 acres of high net interest property, more than double the size of the Gilly Field. Within six months of marketing the well, Black Stone Minerals entered into an agreement with an operator that reimbursed the full program drilling cost and gave the operator an option to further delineate the play after completing the PepperJack A#1. To date, the results from the first completed well are less than originally expected. More time and drilling results are needed to evaluate the definitive acreage quality, but nevertheless this highlights Black Stone Minerals' ability to incubate development and accelerate operator interest in a play that could result in a highly asymmetric payoff. Fortunately, Black Stone Minerals also has many properties that do not require active management. Their acreage in the Permian, Eagle Ford, Bakken/Three Forks, and Haynesville/Bossier are many of the lowest cost oil and natural gas plays in the country. These positions form the core of Black Stone Minerals' portfolio and replicating them in scale and quality would be a near impossible task. The Permian and Haynesville/Bossier are less than thirty percent developed, while the Eagle Ford and Bakken/Three Forks acreage is relatively mature. Over time, Black Stone Minerals has been successful in opportunistically bolting-on acreage to these core properties.

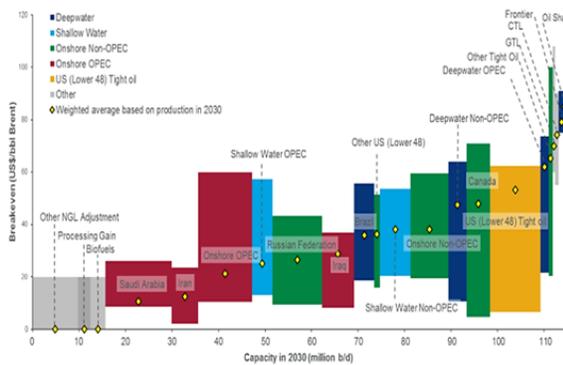


Commodity Diversification - Naturally Hedged

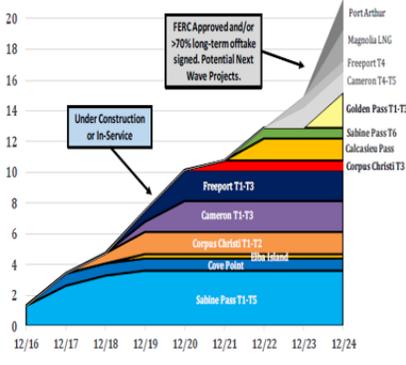
There are seven publicly traded oil and natural gas mineral and royalty interest companies in the United States. Some, like Falcon Minerals, Viper Energy Partners, and Texas Pacific Land Trust are basin specific players with concentrated acreage positions in the Eagle Ford or Permian. Other competitors - Brigham Minerals, Dorchester Minerals, and Kimbell Royalty Partners - have relatively diversified mineral portfolios covering several liquids focused basins. Black Stone Minerals, however, is the only mineral and royalty interest company that is diversified by both basin and commodity. This is important for several reasons. First, the price of oil and natural gas are inversely correlated. More than twenty percent and growing of domestic natural gas production is associated gas produced as a byproduct of shale oil drilling.

Unconventional oil wells have steep decline curves, and in the United States most basins require at least forty dollar oil to incent economic drilling. Therefore, if the price of oil drops to a level that forces production curtailment, then the ensuing shortfall in natural gas supply would swiftly lead to higher natural gas prices and production growth. On the other hand, the headwind to natural gas pricing from associated gas growth is limited by domestic crude consumption, which has largely been met over the last decade. Second, the United States is a low-cost producer of natural gas but is positioned higher up the global cost curve for oil. This leaves domestic oil production, particularly from high cost basins, vulnerable to geopolitical decision making on the low end of the cost curve. Fortunately, governments around the world rely on income generated from state owned oil and gas entities to balance fiscal budgets. Many countries that can drill profitably below forty-dollar oil are incentivized to keep supply in balance in order to achieve adequate pricing. Finally, unlike crude oil, global demand for natural gas is expected to grow for several decades with the United States witnessing the largest call on supply. Steady retirements of coal and nuclear power plants have increased the domestic power generation mix of clean burning natural gas from twelve percent to thirty-eight percent over the last two decades. In addition, planned coal retirements over the next five years are expected to cede an additional six percent of the domestic power grid, or 4.5 Bcf/d of natural gas equivalent. Even still, the largest impact will come from the export of liquefied natural gas. Where pipelines are not feasible, liquefying natural gas provides a cost-effective method for transporting natural gas from producing regions, like the United States, to end markets, like East Asia. Unconventional drilling has dramatically increased the amount of gas that can be recovered at a relatively low cost, enabling the United States to transition from a net importer to a net exporter of LNG. At present, the United States has ~9.0 Bcf/d of LNG export capacity, which has grown more than fivefold over the last three years. In addition, a second wave of LNG projects are underway with ~10.5 Bcf/d of capacity under construction and a further ~20.0 Bcf/d approved by regulators. These are complex, long-term projects, but the increased demand for natural gas feedstock will be meaningful compared to the current base production of ~110 Bcf/d.

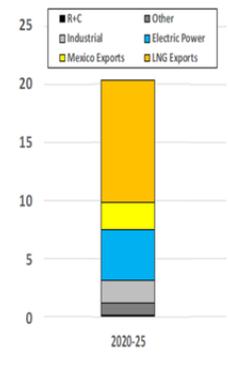
Global Oil Supply by Breakeven



U.S. LNG Export Capacity (Bcf/d)



U.S. Gas Demand Growth (Bcf/d)



Opportunity for Consolidation

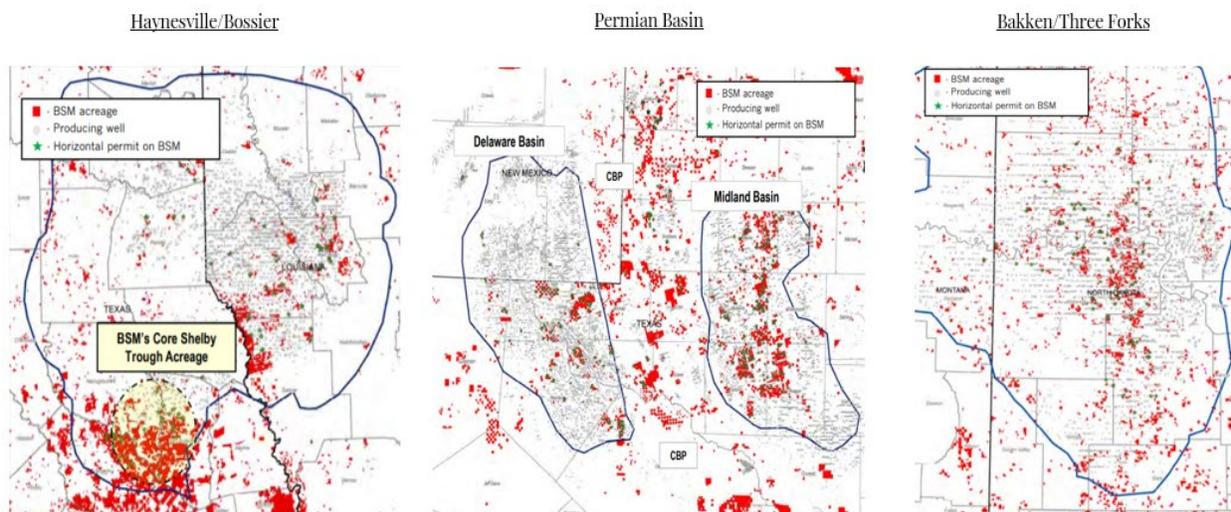
There is a substantial opportunity for Black Stone Minerals to become a leading consolidator in the highly fragmented minerals market. For many years, mineral and royalty interests have taken a backseat to operated working interests due to long held assumptions that minerals are economically uncompetitive and non-scalable. However, with peak oil becoming a distant memory, the virtues of mineral ownership have come to the fore. Warren Buffett once quipped, “If you live in Texas and your grandfather is close to dying, and he calls the grandchildren around him... In his final words, he always says ‘Don’t sell the mineral rights.’” Many individuals inherit their mineral interests, do not consider them explicit investments, and are often skeptical of institutional buyers. Indeed, less than two percent of the \$500 billion United States minerals market is represented by publicly listed entities. Nonetheless, a convergence of factors has shaped a particularly attractive acquisition environment for the largest mineral platforms. Prior to the advent of horizontal drilling, low success rates in conventional exploration necessitated low offer prices from mineral acquirers. As a result, for every three sellers who received a small payout for worthless acreage, one seller received a small payout for acreage worth a fortune – imparting decades of friction on the minerals market. Today, unconventional exploration lowers geologic risk and allows mineral acquirers to offer higher prices without sacrificing deal economics. In addition, public entities offer a unique advantage. They are able to offer common shares in a diversified, large, producing, liquid, and professionally managed mineral estate in exchange for a targeted tract of acreage – an often compelling proposition for sellers compared with a cash only offer. Furthermore, private equity sponsors have invested over \$9 billion in mineral interest transactions over the last ten years and their structural need for liquidity will support increased deal flow for the largest public incumbents. Investment returns in the energy sector have been abysmal, and as such, equity markets are all but closed as an exit strategy for these owners. Black Stone Minerals, on the other hand, is one of a few companies that has the ability to provide liquidity for large scale minerals packages. Finally, compared to its peers, Black Stone Minerals is less leveraged, has acquisition experience in virtually every major operating basin, and is willing to acquire both producing and non-producing acreage.

Long Term Infrastructure Assets

Three acreage positions form the core of Black Stone Minerals’ portfolio – the Haynesville/Bossier, Permian Basin, and Bakken/Three Forks. These are irreplaceable, long lived, critical infrastructure assets that witness consistent operator demand and are akin to owning real estate in the world’s busiest metros. Indeed, they are

real property interests, which benefit from structural growth in economic activity, and provide a long term hedge against inflation. Black Stone Minerals owns 460 thousand gross mineral acres - 260 thousand net mineral acres - in the Haynesville/Bossier, which is a large dry gas formation that encompasses sixteen counties in East Texas and Northwest Louisiana. The region accounts for approximately fifty percent of the group's production, and it is among the highest quality, highest return resource plays in North America. Due to significant development activity in the region beginning in 2008, production and decline rates are predictable, and low-cost midstream infrastructure is currently in place with underutilized capacity. In addition, geographic proximity to Henry Hub, LNG export facilities, and industrial end users results in low transportation cost that provides a competitive advantage relative to other North American natural gas plays, such as those in Appalachia or the Rockies. To date, 1,200 gross wells have been drilled on Black Stone Minerals' Haynesville/Bossier acreage with a further 1,600 locations conservatively remaining for development. Future locations are projected to return more than 12 Bcf EUR per well. Furthermore, Black Stone Minerals owns 2.7 million gross mineral acres – 250 thousand net mineral acres – in the Permian Basin which ranges from West Texas into Southeastern New Mexico and accounts for sixteen percent of the group's production. The Permian Basin is currently one of the most active areas for horizontal drilling in the United States and encompasses several sub-basins including the Delaware Basin, the Midland Basin, and the Central Basin Platform. The region has a history of over ninety years of conventional oil and natural gas production and is characterized by high reservoir quality, consistent geology, oil-weighted production, multiple horizontal target horizons, and low natural decline rates. In the Delaware Basin, operators are currently targeting up to ten benches in the Wolfcamp, Bone Springs and Avalon formations. In the Midland Basin, operators are currently targeting up to eight benches in the Wolfcamp, Spraberry and Jo Mill formations. This stacked pay nature allows operators to develop multiple horizontal wells from a single surface location, which enhances well economics due to shared infrastructure. The Permian Basin boasts industry leading breakeven prices below \$35/bbl and has more than fifty years of economic inventory remaining at current activity levels. To date, 2,500 gross wells have been drilled on Black Stone Minerals' Midland Basin and Delaware Basin acreage with a further 8,500 locations conservatively remaining. Future locations in the Midland and Delaware are projected to return more than 700 MBOE EUR per well. In addition, Black Stone Minerals owns 450 thousand gross mineral acres – 71 thousand net mineral acres – in the Bakken/Three Forks which stretches from Western North Dakota into Eastern Montana and accounts for nine percent of the group's production. This unconventional play is located in the Williston Basin, which is the largest contiguous oil and gas formation in the United States and contains an estimated 7.4 billion barrels of undiscovered, technically recoverable resource. The majority of Black Stone Minerals' acreage is located along the Nesson Anticline, which encompasses the core of the resource play in Mountrail, Williams, and McKenzie counties. Furthermore, the Bakken/Three Forks is considered to be world class source rock, with a total organic content that is nearly double that of the Permian Basin. To date, 4,500 gross wells have been drilled on Black Stone Minerals' Bakken/Three Forks acreage, rendering the asset mature. However, estimates of original oil in place exceed 500 billion barrels, which makes the region a prime candidate for recompletions and unconventional enhanced oil recovery programs. Future locations are projected to return more than 850 MBOE EUR per well. Finally, Black Stone Minerals owns 16.4 million gross mineral acres – 6.7 million net mineral acres - across numerous other conventional and unconventional oil and natural gas

plays throughout the lower forty-eight states. This acreage regularly accounts for more than twenty percent of Black Stone Minerals’ new gross well permits and more than twenty-five percent of total production volumes. Resource plays include but are not limited to the Eagle Ford Shale, Marcellus Shale, Utica Shale, SCOOP/STACK, Austin Chalk, Tuscaloosa Marine Shale, Fayetteville Shale, Barnett Shale, Niobrara Shale, Codell Shale, Wilcox, Cotton Valley, Canyon Lime, Granite Wash, and Smackover/Brown Dense. To date, 60,000 gross wells of varying maturity have been drilled, which provides a predictable stream of long term production in addition to continuous exposure to breakout resource plays.



Valuation

It is difficult to envision a better business model than mineral ownership. As one of the largest owners of oil and natural gas mineral interests, Black Stone Minerals operates with less than one hundred employees and is able to grow with no associated capital expenditure and few variable costs. As a result, more than seventy percent of revenue is converted into free cash flow each year, which makes operating at a loss, even in the worst of commodity price environments, a rare occurrence. In order to assess a worst case scenario for Black Stone Minerals, we can value the runoff production of the existing 70,000 gross wells. If we accept that all drilling ceases in perpetuity, then at \$45/bbl oil and \$2.50/mcf natural gas the wells on Black Stone Minerals’ acreage would produce approximately \$1.2 billion of distributable cash flow over the next fifteen years – or enough to repay all debts and return nearly seventy percent of the current market cap. However, not only is this scenario unlikely, but the immense breadth of Black Stone Minerals’ estate makes it a virtual impossibility. New well permits on Black Stone Minerals’ acreage regularly account for more than ten percent of all horizontal well permits in the lower forty-eight states. Unconventional wells have high decline rates; therefore, new drilling is essential to maintain production which fuels the most fundamental economic activities - powering the electric grid, enabling transportation, supporting construction, etc. Finally, given that Black Stone Minerals has substantial remaining inventory across its core acreage, as well as exposure to nearly every onshore basin in the United States, it is highly unlikely that new drilling could completely cease on the group’s property. Below I highlight a more realistic base case scenario for Black Stone Minerals, one that I believe to be conservative.

BASE CASE							
	BASE	Year +1	Year +2	Year +3	Year +4	Year +5	Thereafter
	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)
Production:							
Natural Gas (MMcf)	71,871.00	63,599.75	60,742.44	64,263.52	70,235.43	79,949.26	1,570,663.47
<i>growth</i>		-11.5%	-4.5%	5.8%	9.3%	13.8%	
Oil and Condensate (MBbls)	4,565.00	3,612.50	3,317.63	3,647.32	4,103.65	4,484.76	57,017.35
<i>growth</i>		-20.0%	-8.2%	0.0%	12.5%	9.3%	
Realized Prices:							
Natural Gas (\$/Mcf)	2.50	2.00	2.50	2.75	2.75	2.75	2.75
Oil and Condensate (\$/Bbl)	45.00	40.00	45.00	50.00	50.00	50.00	50.00
Revenue:							
Natural Gas		127,199.50	151,856.10	176,724.67	193,147.42	210,860.47	4,310,324.55
Oil and Condensate		144,500.00	149,293.13	182,365.94	205,182.63	224,238.18	2,850,867.50
Lease Bonus and Other		20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	300,000.00
Hedges		87,500.00	(15,100.00)	0.00	0.00	0.00	0.00
Total Revenue		379,199.50	306,049.23	379,090.61	418,330.04	464,098.64	7,470,192.04
Expenses:							
LOE		(18,140.00)	(16,314.80)	(14,818.14)	(13,795.42)	(12,926.10)	(130,348.27)
Production costs and ad valorem taxes		(33,962.44)	(37,643.65)	(44,886.33)	(49,701.26)	(55,512.33)	(806,274.01)
G&A		(41,000.00)	(42,640.00)	(44,345.60)	(46,119.42)	(47,964.20)	(953,891.54)
Totals:							
EBITDA + Hedges		286,097.06	209,459.77	275,040.54	308,623.05	347,606.01	5,480,678.23
Interest Expense		(20,756.00)	(20,756.00)	(20,756.00)	(20,756.00)	(20,756.00)	(311,340.00)
Preferred unit distributions		(21,025.00)	(21,025.00)	(21,025.00)	(21,025.00)	(21,025.00)	(315,375.00)
Total Discretionary Cash Flow		244,316.06	167,669.77	233,259.54	266,842.05	305,915.01	4,853,063.23

Valuation:	
Discount Rate	8.0%
Terminal Multiple (Year+15)	7.00
CF Value	2,535,806
Terminal Value	638,772
IV	3,174,578
Upside to IV	121.2%

There are numerous variables to consider when valuing mineral interests – operator development schedules, well spacing, average lateral lengths, type curves, commodity prices, long term demand for oil and gas, and more. This complexity ensures that with the passage of time many of the assumptions in our model will prove to be inaccurate. However, my intention is to select investments where we are shooting at the broad side of a barn, not threading the eye of a needle. The price we are willing to pay serves to appropriately characterize this imprecision as uncertainty rather than risk. In the base case scenario, I model growth in the Haynesville/Bossier and Permian Basin, while assuming the rest of Black Stone Minerals' acreage enters terminal decline. More specifically, I assume 500 new gross wells in the Shelby Trough, 400 new gross wells in the Louisiana Haynesville/Bossier, and 8,250 new gross wells in the Permian Basin over the next fifteen years. I use conservative estimates for well EUR by resource play and assume no further increase in well productivity over time – a stark contrast from the prior decade of consistent improvements. Finally, I use \$50/bbl oil and \$2.75/mcf natural gas as my long term commodity price assumptions, which are a substantial discount to the EIA Annual Energy Outlook reference case. Altogether, these assumptions would yield a \$14.36 share price, or a 121.2% premium to where the shares traded at mid-year. We can also assess a more optimistic outcome for Black Stone Minerals by adjusting these assumptions.

BULL CASE							
	BASE	Year +1	Year +2	Year +3	Year +4	Year +5	Thereafter
	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)	(\$ '000)
Production:							
Natural Gas (MMcf)	71,871.00	64,099.75	65,259.14	75,065.20	80,026.05	103,153.70	2,400,517.32
<i>growth</i>		-9.6%	0.4%	15.0%	18.6%	15.0%	
Oil and Condensate (MMbbls)	4,565.00	3,752.50	3,901.63	4,228.14	4,792.30	5,314.34	91,981.31
<i>growth</i>		-17.8%	4.0%	8.4%	13.3%	10.0%	
Realized Prices:							
Natural Gas (\$ Mcf)	2.50	2.00	2.50	2.75	2.75	3.00	3.25
Oil and Condensate (\$ Bbl)	45.00	40.00	45.00	50.00	50.00	55.00	60.00
Revenue:							
Natural Gas		120,099.50	163,147.85	206,420.30	244,824.11	309,461.11	7,801,681.30
Oil and Condensate		150,100.00	175,573.13	211,406.04	239,615.17	292,288.71	5,518,878.51
Lease Bonus and Other		20,000.00	20,000.00	20,000.00	20,000.00	20,000.00	300,000.00
Hedges		87,500.00	(15,100.00)	0.00	0.00	0.00	0.00
Total Revenue		387,599.50	343,620.98	437,836.24	504,439.27	621,749.81	13,620,559.80
Expenses:							
LOE		(18,140.00)	(16,314.80)	(14,818.14)	(13,795.42)	(12,926.10)	(130,348.27)
Production costs and ad valorem taxes		(35,012.44)	(42,340.12)	(52,220.53)	(60,554.01)	(75,218.73)	(1,665,060.98)
G&A		(41,000.00)	(42,640.00)	(44,345.60)	(46,119.42)	(47,964.20)	(953,891.54)
Totals:							
EBITDA + Hedges		293,447.06	242,326.05	326,442.97	383,069.52	485,640.78	10,862,250.02
Interest Expense		(20,756.00)	(20,756.00)	(20,756.00)	(20,756.00)	(20,756.00)	(311,340.00)
Preferred unit distributions		(21,025.00)	(21,025.00)	(21,025.00)	(21,025.00)	(21,025.00)	(315,375.00)
Total Discretionary Cash Flow		251,666.06	200,545.05	284,661.97	342,188.52	443,859.78	10,235,535.02

Valuation:	
Discount Rate	8.0%
Terminal Multiple (Year+15)	7.00
CF Value	4,289,860
Terminal Value	1,504,830
IV	5,884,690
Upside to IV	310.1%

The bull case assumes an additional 100 gross locations in the Shelby Trough, an additional 150 gross locations in the Louisiana Haynesville/Bossier, and an additional 1,600 gross locations in the Permian Basin over the next fifteen years. Notably, these incremental locations keep Black Stone Minerals' well count comfortably within current spacing assumptions by resource play – a metric that has improved with time as operators successfully complete infill drilling with minimal parent child well degradation. In addition, this scenario assumes a two percent annual increase in well productivity in the Haynesville/Bossier and Permian Basin and flat production volumes from all other regions in Black Stone Minerals' portfolio. Finally, I use \$60/bbl oil and \$3.25/mcf natural gas as my long term commodity price assumptions, which are lower than the EIA Annual Energy Outlook reference case. The result is a share price of \$26.63, or a 310.1% premium to where the shares traded at mid-year. Even still, this bull case does not consider the upside optionality from new breakout resource plays emerging across Black Stone Minerals' unleased fourteen million gross mineral acres. The group's acreage in the Central Basin Platform, Austin Chalk, Lower Wilcox, Eagle Ford Gas Window, and Arkoma Basin represent promising avenues for long term growth. Furthermore, this bull case does not reflect the increasingly worthwhile prospect of adding inventory through refracturing existing wellbores. Operators in the Eagle Ford, Bakken/Three Forks, and Haynesville/Bossier have witnessed substantial improvements in refrac economics over the last several years, which could result in a windfall for mineral owners. Many of Black Stone Minerals' existing wellbores are in the sweet spot of highly developed resource plays and were drilled with legacy completion methods. After iterating on refrac designs, E&Ps have observed as much as a seventy-five percent average uplift in well EUR for less than thirty percent of the original drilling cost. If it ultimately proves to be more economic to refrac existing wells rather than delineate emerging resource plays, Black Stone Minerals will capture a significant portion of this activity across several basins.

Bankruptcy Protection

The oil and gas industry has always been subject to deep and prolonged cycles of boom and bust, and this calendar year has been no exception. According to Haynes & Boone, more than \$30 billion of E&P debt has fallen into bankruptcy in the last six months and is expected to increase substantially over the balance of the year. This has important implications for all stakeholders in the energy industry. However, mineral owners are uniquely positioned to navigate this challenging environment. In most states, a mineral lease is considered to be a transfer of real property interests, not an executory contract, which affords additional protection under bankruptcy law. For example, if an operator goes into bankruptcy the mineral interest lien is automatically perfected as the most senior creditor, and the lease cannot be renegotiated. In the few states where the lease is considered an executory contract, the operator would have a period of time to either accept or reject the standing lease. If rejected, the mineral owner may have to file a proof of claim to recoup any unpaid royalty revenues but is able cancel the existing lease and place the acreage with another operator. Finally, because oil and gas leases are the major assets of most operators, those who are reorganizing through a Chapter 11 filing are likely to keep royalty payments current to prevent a terminated lease.

FILING DATE	COURT	CASE NUMBER	DEBTOR	SECURED	UNSECURED	TOTAL
01/14/2020	C.D. Cal.	20-10143	BRIDGEMARK CORPORATION	\$ 199,879	\$ 53,463,571	\$ 53,663,450
01/27/2020	D. Del.	20-10158	SOUTHLAND ROYALTY COMPANY LLC	\$ 561,972,109	\$ 63,075,091	\$ 625,047,200
02/17/2020	W.D. Tex.	20-50369	DALF ENERGY, LLC	\$ 23,482	\$ 1,194,791	\$ 1,218,273
03/23/2020	S.D. Tex.	20-31884	SHERIDAN HOLDING COMPANY I, LLC*-	\$ 616,100,000	\$ 2,385,147	\$ 618,485,147
03/24/2020	S.D. Tex.	20-31920	ECHO ENERGY PARTNERS I, LLC	\$ 80,448,980	\$ 10,811,536	\$ 91,260,516
04/01/2020	S.D. Tex.	20-32021	WHITING PETROLEUM COMPANY-	\$ 1,071,966,400	\$ 2,494,849,093	\$ 3,566,815,493
04/01/2020	D. Colo.	20-12377	SKLAR EXPLORATION COMPANY, LLC-	\$ 22,859,666	\$ 18,141,322	\$ 41,000,988
04/06/2020	S.D. Miss.	20-01244	AMAZING ENERGY LLC-	\$ 8,481,170	\$ 5,007,939	\$ 13,489,109
04/09/2020	E.D. Cal.	20-11367	TEMBLOR PETROLEUM COMPANY, LLC	\$ -	\$ 12,198,912	\$ 12,198,912
04/15/2020	N.D. Tex.	20-41455	YUMA ENERGY, INC.-	\$ 2,250,000	\$ 41,128,602	\$ 43,378,602
04/30/2020	S.D. Tex.	20-32391	BUZZARDS BENCH, LLC*-	\$ 15,560,455	\$ 7,545,741	\$ 23,106,196
05/06/2020	S.D. Tex.	20-32487	VICTERRA ENERGY HOLDING CO., LLC-	\$ 15,243,156	\$ 3,750,650	\$ 18,993,806
05/11/2020	S.D. Tex.	20-32582	FREEDOM OIL & GAS, INC.-	\$ 49,113,463	\$ 515,882	\$ 49,629,345
05/14/2020	N.D. Tex.	20-41754	NEW EMERALD ENERGY, LLC	\$ 38,244,956	\$ -	\$ 38,244,956
05/14/2020	S.D. Tex.	20-32631	ULTRA PETROLEUM CORP. *-	\$ 24,091,520	\$ 5,532,056,552	\$ 5,556,148,072
05/15/2020	S.D. Tex.	20-32656	GAVILAN RESOURCES, LLC-	\$ 552,276,460	\$ 568,527,805	\$ 1,120,804,265
05/22/2020	S.D. Tex.	20-32740	UNIT CORPORATION-	\$ 139,000,000	\$ 4,669,182,228	\$ 4,808,182,228
05/31/2020	D. Del.	20-11441	TEMPLAR ENERGY LLC*-	\$ 456,000,000	\$ 9,700,000	\$ 465,700,000
06/14/2020	D. Del.	20-11548	EXTRACTION OIL & GAS, INC.-*	\$ 650,000,000	\$ 1,294,700,000	\$ 1,944,700,000
06/17/2020	D. Del.	20-11593	CHISHOLM OIL AND GAS OPERATING, LLC*	\$ 517,000,000	\$ 17,720,927	\$ 534,720,927
06/25/2020	S.D. Tex.	20-33193	SABLE PERMIAN RESOURCES, LLC*-	\$ 574,910,140	\$ 808,780,000	\$ 1,383,690,140
06/28/2020	S.D. Tex.	20-33233	CHESAPEAKE ENERGY CORPORATION*-	\$ 5,833,000,000	\$ 3,336,000,000	\$ 9,169,000,000
06/28/2020	S.D. Tex.	20-33274	LILIS ENERGY, INC.-*	\$ 89,900,000	\$ 351,850,000	\$ 441,750,000
TOTAL 2015				\$ 9,428,934,657	\$ 7,948,644,822	\$ 17,377,579,479
TOTAL 2016				\$ 20,381,058,466	\$ 36,458,841,062	\$ 56,839,899,528
TOTAL 2017				\$ 4,028,066,757	\$ 4,515,455,884	\$ 8,543,522,641
TOTAL 2018				\$ 8,467,115,402	\$ 4,688,644,031	\$ 13,155,759,433
TOTAL 2019				\$ 11,654,278,568	\$ 14,113,409,087	\$ 25,767,687,655
2020 YTD				\$ 11,318,641,836	\$ 19,302,585,789	\$ 30,621,227,625
TOTAL 2015-2020				\$ 65,278,095,686	\$ 87,027,580,675	\$ 152,305,676,361

Conclusion

This calendar year has presented both tremendous challenges and opportunities. As a matter of course, our partnership ignores short lived market noise, focuses on what is knowable over a time frame that we deem appropriate, and views the quotation of business interests as an asset to be utilized when desired. Over time, knowing when to exchange our thimble for a bucket will be as fundamental to improving our odds of success as maintaining the discipline to not bet when the cards are not stacked in our favor. Our partnership owns a collection of assets that are profitable, enduring, and conservatively financed. In addition, many of these businesses are not only surviving but thriving during this period of economic tumult. As always, I am happy to speak with you at length about any of our companies, and I remain grateful for your trust and partnership.

Appendix A: Realized Investments

Ticker	Company	IRR*	MSCI ACWI	Delta
-	-	94.69%	17.29%	77.39%
-	-	3.19%	13.84%	-10.65%
-	-	46.07%	14.10%	31.96%
-	-	37.70%	17.21%	20.49%
-	-	3.29%	8.86%	-5.57%
-	-	28.08%	14.16%	13.92%
-	-	10.00%	2.09%	7.91%
-	-	38.91%	21.19%	17.72%
-	-	20.01%	14.81%	5.20%
-	-	27.84%	17.45%	10.40%
-	-	29.94%	14.95%	14.99%
-	-	18.71%	16.74%	1.97%
-	-	37.17%	15.28%	21.89%
-	-	42.56%	-2.85%	45.41%
-	-	93.23%	3.95%	89.28%
-	-	25.79%	5.39%	20.40%
-	-	152.89%	8.50%	144.39%
-	-	30.52%	6.80%	23.72%
-	-	-45.74%	6.17%	-51.91%
-	-	-27.90%	8.14%	-36.04%
-	-	52.40%	12.64%	39.75%
-	-	1.79%	-9.64%	11.43%
-	-	-27.62%	0.00%	-27.62%
-	-	-47.93%	0.00%	-47.93%
-	-	-23.85%	-5.67%	-18.18%
-	-	7.17%	-6.36%	13.53%
Average		24.19%	8.27%	15.92%

*Table above reflects the IRR of realized portfolio investments (unannualized if < 1 Year), and the equivalent IRR that would have been achieved had each invested dollar been allocated to MSCI ACWI.

**Full Disclosure Available Upon Request

Appendix B: Unrealized Investments

Ticker	Company	IRR*	MSCI ACWI	Delta
-	-	-12.15%	-0.85%	-11.30%
-	-	85.36%	28.18%	57.18%
-	-	-12.38%	0.98%	-13.37%
-	-	-25.19%	3.48%	-28.67%
-	-	37.68%	9.03%	28.65%
-	-	229.84%	12.39%	217.46%
-	-	3.04%	0.26%	2.78%

*Table above reflects the IRR of unrealized portfolio investments (unannualized if < 1 Year), and the equivalent IRR that would have been achieved to date had each invested dollar been allocated to MSCI ACWI.

**Full Disclosure Available Upon Request

Disclosures

Investment in Emeth Value Capital are subject to risk, including the risk of permanent loss. Emeth Value Capital's strategy may experience greater volatility and drawdowns than market indexes. An investment in Emeth Value Capital is not intended to be a complete investment program and is not intended for short term investment. Before investing, potential clients should carefully evaluate their financial situation and their ability to tolerate volatility. Emeth Value Capital, LLC believes the figures, calculations and statistics included in this letter to be correct but provides no warranty against errors in calculation or transcription. Emeth Value Capital, LLC is a Registered Investment Advisor. This communication does not constitute a recommendation to buy, sell, or hold any investment securities.

Performance Notes

Net performance figures are for a typical client under the standard fee arrangement. Returns for clients' capital accounts may vary depending on individual fee arrangements. Net performance figures for Emeth Value Capital, LLC are reported net of all trading expenses, management fees, and performance incentive fees. Reported returns prior to January 1st, 2021 reflect the personal account performance of Emeth Value Capital, LLC's sole managing member, and therefore represent related performance. All performance figures are unaudited and are subject to change.

Contact

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