

Trickle Research

Every raging river, every great lake, every
deep blue sea starts ... with a trickle



Initiating Coverage

VIVAKOR

Vivakor, Inc.

(NasdaqCM : VIVK)

Report Date: 05/18/22

12- 24 month Price Target: \$6.00

Allocation: 4

(Adjusted) Closing Stock Price at Initiation (Closing Px: 05/17/22): \$1.54

Prepared By:

David L. Lavigne

Senior Analyst, Managing
Partner Trickle Research

Disclosure: Portions of this report are excerpted from Vivakor's filings, website(s), presentations or other public collateral. We have attempted to identify those excerpts by *italicizing* them in the text.

(On October 29, 2021, Vivakor received a third-party Plant Process Assessment ("PPA"). That report was provided by Katzen International. "KATZEN International, Inc. is located in Cincinnati, Ohio and is a *leading provider of technology, process design, and consulting engineering services to a wide variety of chemical and related process industries with a strategic focus on the continuous improvement, development and application of biofuels and bioethanol worldwide*". The PPA provides a good overview of Vivakor's Utah project. We have excerpted portions of that assessment throughout, and in those instances, we have delineated those excerpts in "quotations" and *italics as well as with the notation: (KZ)*.

Please note: this report was revised from its original transmission as the Projected Operating Model had an error which was subsequently corrected.

Company Overview

Vivakor, Inc. is a socially responsible operator, acquirer and developer of clean energy technologies and environmental solutions, primarily focused on soil remediation. We specialize in the remediation of soil and the extraction of hydrocarbons, such as oil, from properties contaminated by or laden with heavy crude oil and other hydrocarbon-based substances. Our patented process allows us to successfully recover the hydrocarbons which we believe could then be used to produce asphaltic cement and/or other petroleum-based products.

We are focused on the remediation of contaminated soil and water resulting from either man-made spills or naturally occurring deposits of oil. Our primary focus has been the remediation of oil spills resulting from the Iraqi invasion of Kuwait, naturally occurring oil sands deposits in the Uinta basin located in Eastern Utah and most recently the remediation of tank bottom sludge and other oil industry waste in our new Houston Texas location. We plan to expand into other markets, both in Utah, Houston and globally, where we believe our technology and services will provide a distinct competitive advantage over our competition.

*Our current focus is on the clean-up of greater than 7% hydrocarbon contaminated soil located in Kuwait as a result of the Iraqi invasion, and naturally occurring oil sands deposits in Utah. We have deployed two **Remediation Processing Centers** (“RPC”) units to date including one unit to Kuwait (for which operations were temporarily suspended due to COVID-19) and another to Vernal, Utah (which is presently operating). We expect to deploy two additional RPCs to Houston (the first of which should be installed prior to the end of this second quarter) and two more to Vernal, Utah and believe that there may be an opportunity to deploy additional RPCs in Utah, Houston as well as to Kuwait and the Middle East.*

We believe that the market for remediating oil from both soil and water is significant. According to Grandview Research, the market for environmental clean-up of oil spills will reach \$177 billion by 2025. We believe that a large portion of that market will originate from contamination of more than 7% hydrocarbon content and that our technology is currently the only one that can economically remediate these environmental disasters, while allowing for the capture and reuse of the crude.

In addition, we believe that the heavy crude that we have been recovering in Utah is ideal for producing asphaltic cement. The demand for asphaltic cement in the United States is presently estimated to be \$93 billion this year according to Transparency Market Research. Our asphaltic cement now the general classification of AC20 asphaltic cement generally considered high-performance asphalt. We recently announced our first large order to provide up to 50,000 tons of asphaltic cement to Hot Oil, Inc – a distributor of asphalt throughout the Rocky Mountain area.

We were first introduced to Vivakor in mid-2019. At that time, the Company was “public”, but it was not filing financials. Subsequently, they presented at our Fall 2019 conference with the idea that they were in the process of upgrading their filing status, preparing an S-1 and associated capital raise and closing the loop on some contracts/agreements that would provide a basis for sustainable revenue and growth.

In retrospect, their progress from the time of their presentation at our conference to today, was impeded by the pandemic and associated challenges (declining oil prices, supply chain issues et al). However, in late 2021, the Company refiled their S-1 registration statement, which was originally filed in October 2020. That registration statement was deemed effective on February 11, 2022, and on February 16, 2022, the Company closed a public offering raising (gross) proceeds of \$8 million through the sale of 1,600,000 shares of common stock at a public offering price of \$5.00 per share. On April 15, 2022, the Company filed its 10K earnings filing for the year ended December 31, 2021, representing the Company’s first financial filing since November 2010, and completing what has essentially been a restructuring, recapitalization and refocusing

of the business. As a result of these milestones, and in conjunction with a convergence of favorable macro issues we will touch on throughout this report, we believe the Company is now positioned to begin monetizing its IP and associated assets as a fully disclosed/reporting public entity, and we think that posture could provide the basis for much better valuations of the underlying shares as we move forward.

Industry Overview

As with some of the other microcap stories we cover, Vivakor probably does not fit into a standard industry classification, which probably speaks to the uniqueness of the story and in turn some of our enthusiasm for it. Along those lines, we think there are a handful of macro issues that could provide multiple tailwinds for Vivakor. For instance, as we will delineate in further sections of this report, the Company anticipates generating revenue from multiple arrangements. Some of those arrangements involve fees for processing feedstocks, which is essentially remediation or perhaps tolling, while other arrangements look more like a pure production model, wherein they extract materials from various feedstocks and sell them at open market prices. In other instances, their agreements may involve some combination of the two.

As a result of these different arrangements, and what we view as the adaptability of the technology, the Company's success will depend on a handful of variables, which again, we think will be driven by some of those macro issues we alluded to.

Setting aside these macro issue for a moment, a general introduction to bituman (asphalt cement) might be constructive.

“Bitumen (also known in the USA as “asphalt cement”) is a dense form of crude oil which is too viscous to be free flowing. It is comprised mainly of complex hydrocarbons including elements such as calcium, iron, sulfur and oxygen. The two primary sources of bitumen are distillation (refining) of crude oil and naturally occurring bituminous deposits. Bitumen is found in sandstone/rock deposits known as “oil sands” or “bituminous sandstone” (also referred to in the USA as “tar sands”). Oil sands have been discovered in more than 70 countries with the largest known deposits in Canada, Venezuela, Kazakhstan and Russia. Somewhat smaller, but significant deposits are found in the Uinta Basin in the state of Utah”. (KZ)

The Uinta oil sands differ from the Canadian Oil Sands (e.g. Athabasca, Peace River, Cold Lake) in that the Uinta deposits are “oil wet” and the Canadian deposits are “water wet”. The Canadian deposits typically contain about 5% water (sometimes as high as 9%) which facilitates the separation of bitumen from sand using hot water-based gravity separation. However, hot water-based gravity separation requires significant amounts of water for steam production, high energy consumption, and massive tailings ponds that are detrimental to the environment. (KZ)

The “oil wet” bitumen deposits in the Uinta Basin contain little water and are more efficiently recovered with recyclable hydrocarbon solvents. Solvent recovery reduces water and thermal energy requirements and eliminates wet tailings ponds. In general, solvent extraction is less costly than water-based gravity separation processes, with less impact on the environment and short shutdown and restart time. (KZ)

There are two primary methods for extracting bitumen out of natural deposits, and the method applied generally depends on the nature of the deposit (typically its proximity to the surface). The first of these methods is an in-situ process wherein wells are drilled into the deposits. the wells are used to pump steam and/or solvents into the formation, which then liquifies the bitumen so it can be pumped to the surface.

The second type of bitumen extraction is akin to open pit mining wherein the bitumen laden rock is gathered, crushed and then processed in some manner using heat or some sort of solvent that separates it from its

source. “The Vivakor plant is a surface-mining operation combined with an aboveground closed-loop solvent extraction system that produces asphalt cement as the primary product. Secondary products include light crude oils and Vivakor uses a proprietary light hydrocarbon solvent process for the bituminous separation. The solvent is derived directly from the bituminous reclamation process and is recycled”. (KZ)

The above noted, here are a few macro issues that we believe are topical to Vivakor’s opportunities:

- **Energy Prices**

To reiterate, when Vivakor presented at our Fall 2019 conference, they were focused on three primary areas; the economic extraction and sale of oil/oil products from oil sands primarily in Utah, the extraction of metals and the remediation of oil from oil spills/accidents, primarily in the Middle East and specifically Kuwait. As a point of reference, the Company’s revenues for fiscal 2020 and 2021 (\$1.4 million and \$1.1 million respectively), were derived from these three



endeavors, and primarily from the sale of oil/oil products in Utah as well as metal extraction and sales in Nevada. In retrospect, our interest at the time of their presentation was largely focused on their efforts in Utah. Recall, at that time, WTI oil prices were trading between \$50 and \$60, and our view was that if Vivakor could extract oil and/or oil equivalents from oil sands in Utah for something around the \$35 to \$40 per barrel metrics they were suggesting, that presented a potential opportunity on the face. Further, given the state of the world at the time, it looked like economic growth and other associated factors would continue to support higher or at least stable oil prices, which again, we thought would bode well for Vivakor’s opportunities.

Of course, as we now know, the trajectory for oil turned out to be much different than most envisioned in late 2019. In fact, following WTI’s \$63+ close at year end 2019, the pandemic rattled energy markets, sending oil futures briefly *below zero in April 2020*. Thereafter, it took oil prices 15 months to return to their late 2019 levels, which again, created a variety of challenges for Vivakor relative to the opportunities we believed they had at the time of their presentation. However, while it took oil 15 months to recover back to late 2019 levels, *15 months thereafter*, oil is trading over \$100. Clearly, for Vivakor energy price headwinds have become tailwinds. Again, we believe the Company’s “all-in” costs for the energy equivalents they recover is around \$37 per barrel. That said, the question is, “where does oil go from here”. We do not pretend to know the answer to that, but we will provide some food for thought in that regard.

The above noted, it is important to delineate that *most of* what Vivakor recovers from its processes is not “oil” per se. Rather, most of what it recovers is typically referred to as bitumen, or more specifically, “asphaltic cement” or “asphaltic binder”. Those distinctions require some color. Recognize, the resulting product mix from their processes depends on the inputs to those processes. For instance, in Utah, where they are processing oil sands, the oil content of sand is estimated to be something around 10% to 15%, while the

oil content of the sludge they are cleaning from tanks in Houston may be closer to 40%. Generally, higher content feedstock will generate higher margins. We discussed oil prices above, and as a crude oil derivative, asphaltic cement prices are positively correlated with those of oil. However, we think there are some nuances between the two that are worth noting.

As the name suggests, asphaltic cement (“AC”) is typically mixed with some sort of aggregate and compacted to make asphalt roads. AC currently trades in the wholesale markets between \$550 and \$650 per ton, and as a further metric, 1 ton of material equates to approximately 5.2 barrels. Here are some charts that we think will help provide some perspective to the pricing of AC relative to oil (WTI):

The chart below reflects and AC pricing index that is provided by Asphalt Oli Market (<http://asphaltoilmarket.com/>):

Table 2.

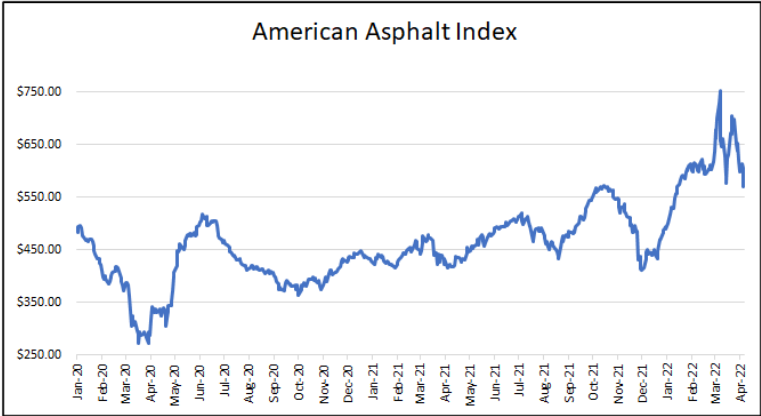
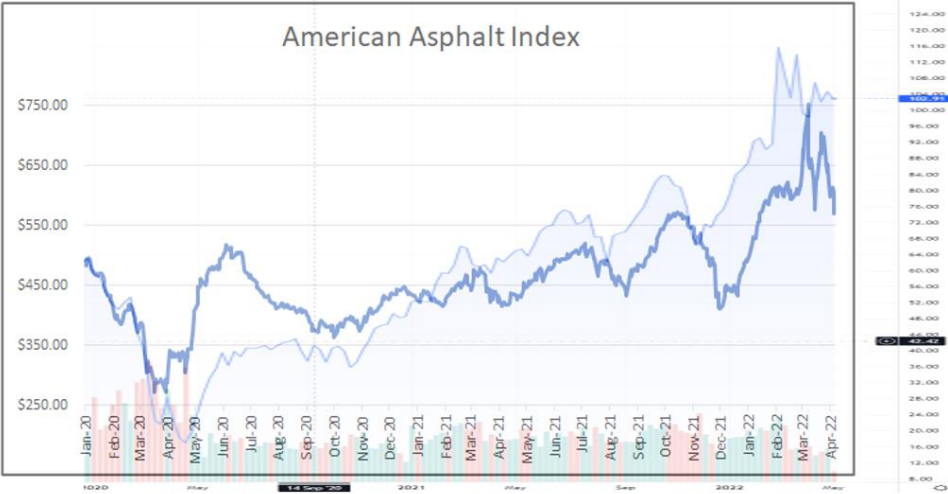


Table 3. below reflects **Table 2.** superimposed onto a chart a chart for WTI for the same period. (The WTI chart is from **Table 1.** above). **Table 2** reflects the considerable (positive) correlation between to two:

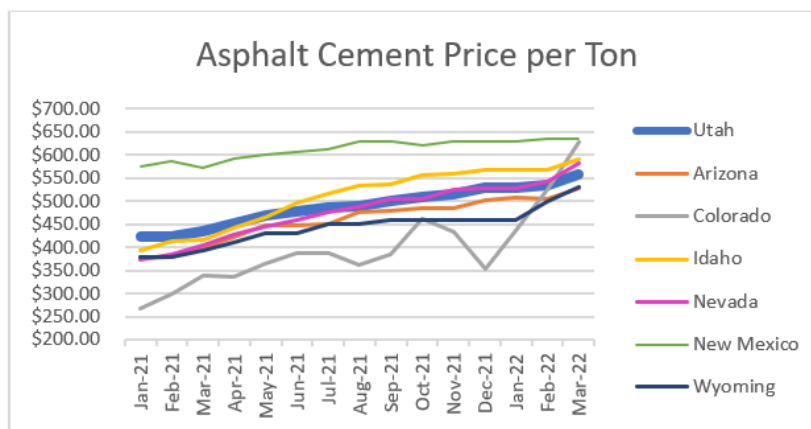


<http://asphaltoilmarket.com/index.php/state-index-tracker/>

Table 3. below reflects the trajectory of AC prices in various states. In this case, we used the states contiguous with Utah since that is the location of the Company’s oil sands project. Part of our premise in that

regard is we assume they will sell more product closer to the source than further away. That may or may not be the case. Just to reiterate the point, prices in these areas clearly followed oil prices higher. That said, it is not clear to us why some of these prices differ as much as they do given the relative proximities of the markets (New Mexico’s prices relative to Wyoming’s for instance). It is also not clear to us why some of these markets experience more volatile pricing than others (Colorado for example).

Table 3.



- Infrastructure

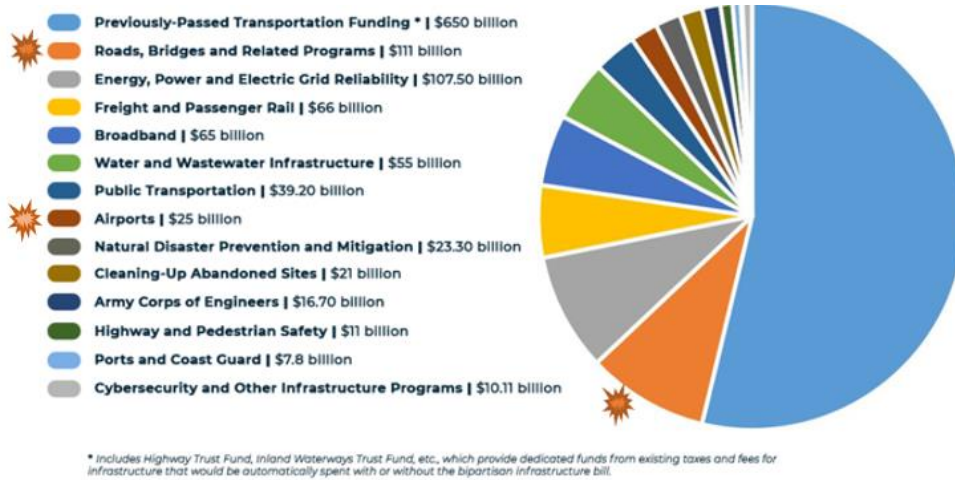
We are prefacing this section of the overview with an excerpt from the Company’s most recent 10K filing that we think provides a good opening: *The U.S. alone produces approximately 350 million metric tons of asphalt at a value of approximately \$35 billion per year. Roads and highways constitute the largest single use of asphalt at 85 % of the total. Of the 2.6 million miles of paved roads in the U.S., over 94 percent are surfaced with asphalt. There is approximately 18 billion tons of asphalt pavement on America's roads. At least 85 percent of all runways at the nation's 3,364 commercial airports are surfaced with asphalt pavement. Over 90 percent of the parking areas in the nation are surfaced with asphalt pavement. To be sold for use on roads and highways, asphalt must meet ratings established by state agencies or departments of transportation. Vivakor has demonstrated the ability to process oil sands bitumen at their Utah facility that has the potential to be refined to a PG 64-22 or Table 2 AC-20 asphaltic cement, a performance grade that meets many of the roadway requirements in the U.S. and abroad.*

While we view higher energy prices as one clear positive macro development for Vivakor, in our view, another macro tailwind is the Federal Government’s November 6, 2021, passage of the Infrastructure Investment & Jobs Act (“IIJA”). The legislation includes outlays of \$1.2 trillion (\$550 million of which is “new money”), over 5 years beginning in 2022. That piece of legislation includes a host of infrastructure outlays, the largest of which is for “Roads and Bridges”. In short, we believe this new funding could be a boon for some portions of the economy, ostensibly those who build and fix roads and bridges, and/or those who provide them the materials to do so... asphalt for instance.

To that end, anecdotally, a February 20, 2022, New York Time article regarding the legislation noted that *“Within the \$1 trillion of spending authorized by the infrastructure legislation that President Joe Biden signed in November, **the asphalt industry may ultimately receive the biggest share** ... The highway and bridge budget will pay for engineers, steel, concrete and other elements of the structures, but lobbyists and transportation experts expect an outsize portion of the pavement spending to go to asphalt, the material that*

paves 94% of America's roads and bridges. The other 6% are paved with concrete".
<https://www.arkansasonline.com/news/2022/feb/20/asphalt-industry-winner-in-infrastructure-plan/>. We concur.

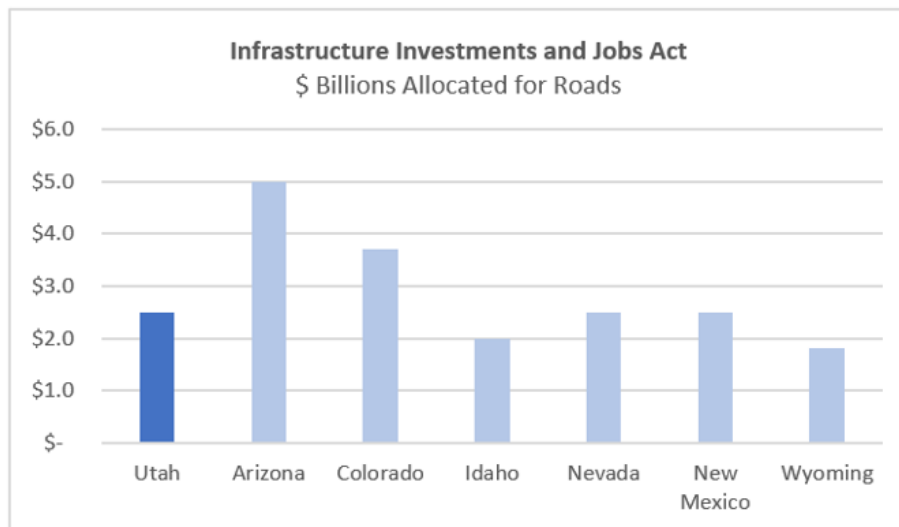
Table 4.



<https://www.grassley.senate.gov/news/news-releases/myths-and-facts-infrastructure-investment-and-jobs-act>

More specifically, as noted in Table 3 above, our assumption is that at least through some level of production, Vivakor will likely sell their Utah asphalt binder largely locally which we have defined as Utah and its contiguous states. As Table 5. below illustrates, these states will collectively be allocated \$20 billion from IIAJ Act for the building/repairing their roads. These states have also been collectively allocated an additional \$1.58 billion from the act to build/repair bridges. We would add, these numbers do not include any allocations these states might receive for Airports and Ports (\$25 billion nationally).

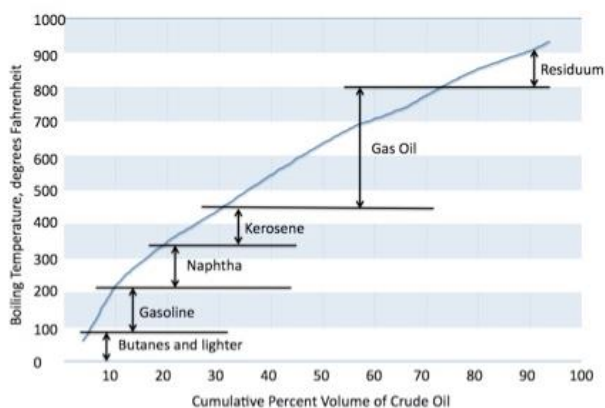
Table 5.



Consolidating the above, we believe there are major macro issues that are converging to provide Vivakor the tailwinds we suggested. Those tailwinds are rising energy prices, which are driving the price of their product(s) and a trillion dollar federal infrastructure program that we believe could markedly drive demand for the Company’s asphalt product for at least the next 5 years. That said, we think there is (at least) one additional macro issue that deserves consideration.

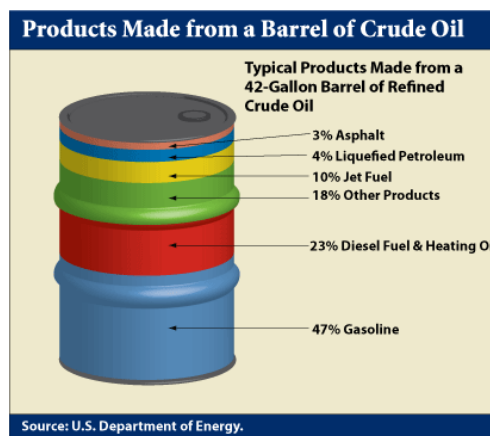
Recognize, most of the 18 billion tons of asphalt that makes up America’s 2.6 million miles of paved roads has been produced by oil refineries. Generally, asphalt is what is left over “at the bottom of the barrel” after most of the higher value constituents are refined out of a barrel of crude oil, and that refining (in simple terms) is accomplished by heating the crude to levels where particular products boil off and are collected. Again, asphalt is what is left over (“residuum” below), and it represents a small portion of each original barrel of crude input:

Table 6.



Asphalt Production and Oil Refining – Pavement Interactive

Table 7.

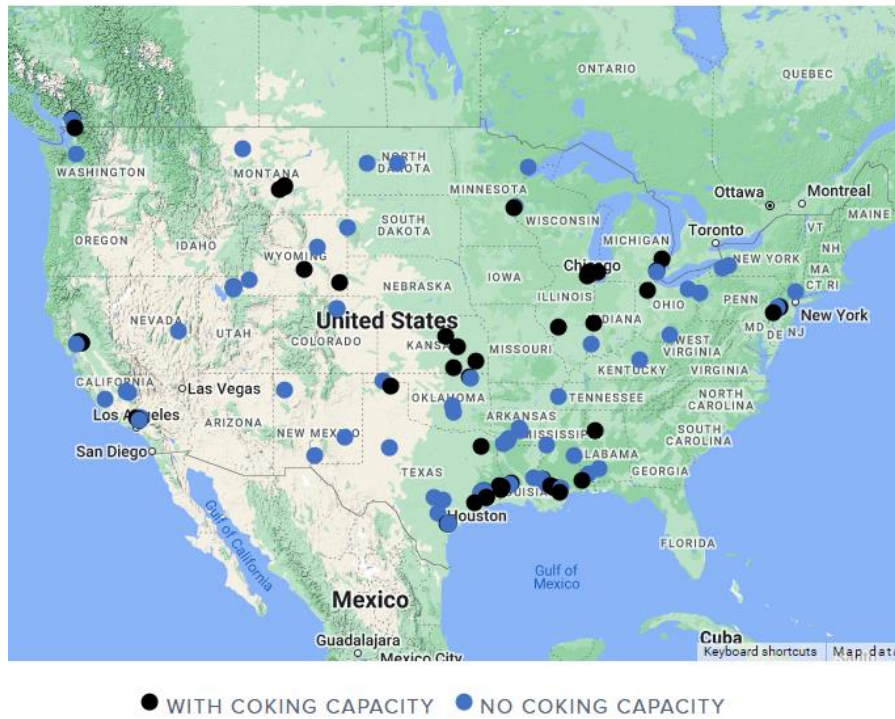


Source: U.S. Department of Energy. <https://mercercapital.com/energyvaluationinsights/a-bright-spot-at-the-bottom-of-the-barrel/>

While using asphalt to pave roads is *centuries* old, for much of that past, asphalt came from natural sources. However, with the rise of the automobile, and refineries to support it, asphalt became a by-product of the industry, which in turn likely helped accelerate automobile adoption as it provided better roads to drive them on. That symbiotic relationship, refining oil to drive the automobiles and using what was left over to make better roads to drive them on, has worked well and as we illustrated above that correlation (between oil and asphalt supply, demand and prices) has held up. That is, historically, road builders have faced higher prices and more asphalt supply constraints when oil prices were rising (typically on supply constraints). The inverse of that has held as well. That said, technology has/is playing a role in perhaps decoupling some of that relationship. For instance, over the years many refineries have added coker units that allows them to refine residuals (asphalt) into higher margin products such as gasoline. Today, many of the largest refineries have been converted in that regard. Table 8 below reflects most of the larger refineries in the contiguous states, the black dots represent those refineries that have coking capabilities, which generally means they are likely not producers of much asphalt.

Table 8.

LOWER 48 REFINERY MAP



U.S. Refineries | Oil Sands Magazine

To further edify the point, refineries attempt to optimize their product yields based on several variables that include things like the types and prices of available crude feedstocks, the prevailing prices they can get for different products they can produce (gasoline versus diesel for instance) and various others. In that regard, they attempt to make their facilities as flexible as possible, which explains why many of them have added cokers over the years. Ostensibly, they have historically managed that flexibility to adequately respond to (for instance) the demand for asphalt. However, we question how that flexibility will play out if demand for asphalt accelerates markedly because of the implementation of the Infrastructure Investment & Jobs Act?

Lastly with respect to infrastructure, it is important to note that Vivakor has spent the past few years advancing their RPC technology and that has included collaborations with potential customers and others to not only economically produce asphalt binder from oil sand, but also to produce a product that could meet the asphalt specifications and certifications that would allow it to be applied to a wide array of asphalt projects. In May (2021) the Company received an independent laboratory analysis that established its asphalt product as “Performance Grade (PG) 70-22 as per AASHTO M320, R29”. We think that is an important milestone and distinction in terms of the commercial viability of their product.

- Remediation and ESG

We think the initial goal of Vivakor was to develop a technology that could extract hydrocarbons out of oil sands in the western United States. The impetus for that goal is in our view straightforward as we alluded to earlier in this report: “According to the U.S. Geological Survey, The State of Utah approximately 14 billion barrels of measured oil in place with an additional estimated 23 to 28 billion barrels of oil contained in

contaminated oil sands that are deposited near the ground surface". To put that into perspective, at current domestic consumption rates, 28 billion barrels of oil would fulfill domestic oil consumption for the next 40 years. Clearly, devising a cost-effective way to extract some of that oil would be valuable.

The above noted, as it turns out the technology is also applicable to other hydrocarbon extraction endeavors, and to this point the two most imminent of those endeavors are both aimed at *remediating* hydrocarbons. Specifically, their project in Houston is capturing/recycling oil from sludge that would otherwise end up in a landfill, while their project in Kuwait is cleaning the oil disaster left by Saddam Hussain's burning of the oil fields in 1991. These projects align with the Environmental, Social, and Corporate Governance ("ESG") push, which could provide added benefits to Vivakor. Specifically, some of the Company's products may be eligible for environmental programs or other green initiatives. We believe they have initially identified some of these potential programs and there may be others. We will address these if/when they can provide added information on these.

- Sand

In large part, Trickle Research focuses its coverage on early-stage ideas and our approach in that regard is generalist, so we follow things from "soup-to-nuts", which often means companies and/or technologies that may not fit neatly into standard industry classifications. As a result, much of our research often includes a fair amount digging to try to uncover nuances to the business that we think are not obvious and/or not well understood. That often leads us to things we did not know or expect to encounter. Vivakor has an element of that, which we think is worth addressing. Specifically, the by-product of some of Vivakor's current opportunities is clean sand. That is not particularly intuitive given that their feeds stock is primarily ...sand. however, what may be less obvious, at least it was to us, is that the world is apparently in the throes of a sand shortage. As it turns out, according to a recent U.N. Environment Programme ("UNEP") report, "*sand is the most exploited natural resource in the world after water, but its use is largely ungoverned, meaning we are consuming it faster than it can be replaced by geological processes that take hundreds of thousands of years*". The report continues, "*Global consumption for use in glass, concrete and construction materials has tripled over two decades to reach 50 billion tonnes a year, or about 17 kilogrammes per person each day, harming rivers and coastlines and even wiping out small islands*".

Now that we think about it, sand is used extensively in construction as well as in agriculture and it is also used to make a wide variety of things including roofing, bricks, glass, silicone chips and *many* others. More topical to our discussion here, it is used to frack oil wells and it is used to make concrete, which makes up the balance of the roads that are not built with asphalt. Actually, it is also often part of the aggregate that is mixed with the asphalt binder to make those same roads. In short, its everywhere, but apparently, it is starting to be less than everywhere.

We will not belabor this because we do not think selling sand is Vivakor's goal. On the other hand, they do note in their presentations that they intend to sell the clean sand from their process. However, as we understand it, this could be more important than we are currently modeling. Perhaps we will revisit this.

Technology/Project Overview

Vivakor currently has 3 projects either in or near operation and we will provide a brief overview of each. These projects all utilize the Company's RPC technology, which they acquired in 2015, and have been advancing/improving since that time. On a simple level, the technology can remediate contaminated soil and

recover usable hydrocarbons. They currently have two US patents and pending foreign applications related to their RPCs. The RPCs each have the potential to clean up to 500 tons of contaminated soil per day and operates on a 6 day per week schedule.

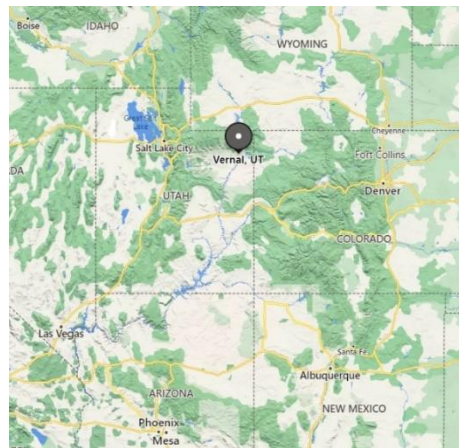
- Vernal, Utah Project

Vivakor’s Utah project in Vernal, Utah is located in the northeast corner of Utah, approximately 20 miles west of the Colorado border and 50 miles south of the Wyoming border. What is particularly telling about this portion of the country is that it may contain the largest oil resource in the United States. According to the Utah Geologic Survey, “Utah’s oil sand deposits contain 14 to 15 billion barrels of measured oil in place, with an additional estimated resource of 23 to 28 billion barrels. The estimated/measured oil-in-place resources of individual deposits range from 100 million barrels to more than 22 billion barrels. The deposits are located mainly in two areas of Utah: the Uinta Basin of northeastern Utah, and central southeastern Utah”.

<https://geology.utah.gov/map-pub/survey-notes/energy-news/energy-news-taking-another-look-at-utahs-tar-sand-resources/>.

“The Uinta Basin is also the largest single deposit of bituminous sandstone in the United States containing an estimated 11.8 billion barrels of crude bitumen in place and an additional 6.8 billion barrels speculative in place” (US Geological Survey 2006).

Illustration 1.



In March 2022, Vivakor entered into a land lease, which now encompasses the Vernal project. The lands lease carries a five year term, with an optional 5 year extension, allowing Vivakor to “process up to 2,000 tons per day of oil sand material, with a guarantee by the land owner to deliver material with a minimum of 10% hydrocarbon by weight, which would produce up to 200 tons of asphalt cement product per day when processed through four of their patented RPCs”. That lease represented the culmination of a prior agreement with the landlord. The lease/project includes roughly 600 acres and contains 100 million cubic yards of oil sand material available for processing. The property is located in a portion of the Uinta Basin referred to as Asphalt Ridge. Data suggest that the Uinta Basin reflects average bitumen contents in the 9% 10% range (by weight). However, the Asphalt Ridge deposits are believed to carry average bitumen contents in the 10% to 18% range, with measurable concentrations as high as 18% to 25%. On the face, higher bitumen content provides the basis for better project economics.

Each RPC unit has the capacity to process approximately 20 tons of contaminated material per hour (480 tons per day) depending on the hydrocarbon concentration of the feedstock. We will cover some of the project(s) economics in the Operating Overview of this report, but to briefly put the math into perspective, as Table 2. above reflects Utah asphalt binder prices were \$559 in March 2022 (the latest print we have for Utah, although we think it is measurably higher today). If the project were to produce 480 tons per day, 6 days per week (roughly 312 days per year) it would generate annual production of about 15,000 tons. If the hydrocarbon content is 10%, those 15,000 tons would yield 15,000 tons of asphalt/equivalents at \$559 per ton, or annual revenues per RPC of just under \$8.4 million. As the lease agreement suggests, they would require 4 RPC units to process up to the terms of the agreement.

Here is a brief overview of how the Vernal project works:

Vivakor utilizes an open-pit mining method that excavates and removes the muskeg (top layer of peat bog) and top overburden (sand and clay with little bitumen content) to access the bitumen-rich oil-sand ore

deposit. The ore is loaded onto trucks and transported to the processing plant within 500 feet, where it is stockpiled. A 1-ton skid steer machine loads a feed bin every 3 minutes, thus meeting the desired throughput rate of minimum 500 tons per day. The material first passes through a “Grizzly” bar screen to remove large rocks that contain little, if any, hydrocarbon. The smaller (less than 4 inches) material, is crushed in a hammer mill and reduced to fine sand. The crushed material is conveyed to a reactor vessel (Mix Tank) where it is mixed with imported “condensate” as a solvent (light crude oil) at a proportion of 25% tar and sand containing ore and 75% solvent. Typical hydraulic retention in the tank is 15 minutes at a temperature of 5000F.

Illustration 2.



Illustration 3.



The energy required for heating and maintaining the process temperature is provided by electric heaters installed on a recycle loop pumping the slurry in recirculation from the Extraction Tank to the Heater Bank and back to the Extraction Tank.

The solvent releases the oil in the liquid phase and allows the sand to become discreet suspended particulate solids. The resulting slurry is pumped to a horizontal Decanter Centrifuge to remove the sand from the oil/solvent liquid mixture. This effective separation achieves 99% sand capture. The clean sand contains from 0.5% to 3% hydrocarbons, depending upon feed rate and other operational settings. The sand is destined to two different markets: oil drilling mud and agriculture soil amendment.

Illustration 4.

VIVAKOR Bitumen Extraction Process Flowsheet

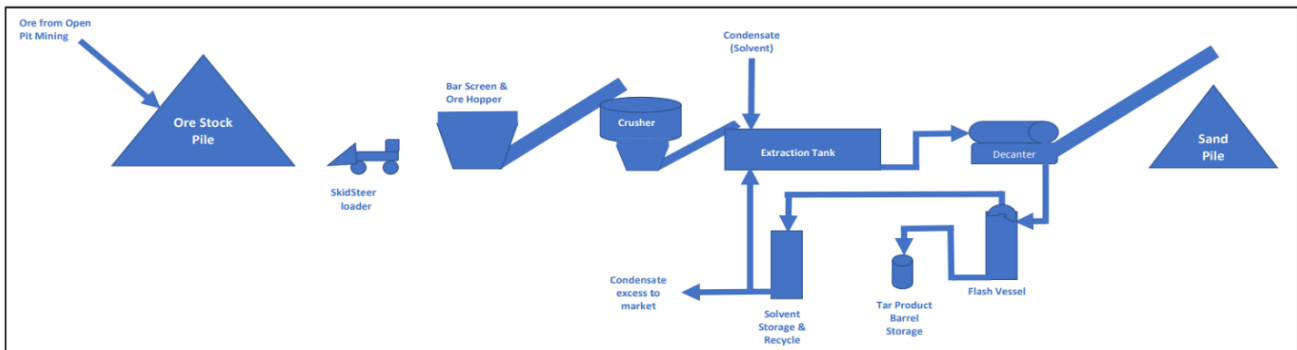


Illustration 5.

VIVAKOR Asphalt – Cement Product



The liquid concentrate, containing less than 1% sand, expands in volume due to the input of light components from the ore material. The solvent is recovered by pumping the liquid to a flash vessel, then condensed, cooled and stored in a solvent tank for reuse in the process, or for sale when the volume becomes excessive. The heavy liquid phase is recovered in a separate barrel storage and is tested on site by a “needle penetration” laboratory procedure. Samples are periodically sent to an outside laboratory for additional analysis to verify that the desired specification is met.
{KZ}

Aside from the above project description from Katzen International’s PPA, there are a handful of other salient points to know. First, Vivakor’s process does not use water, which we believe has been a contentious issue around the extraction of hydrocarbons from Utah’s oil sands in general. Rather than heating water to steam the viscosity out of the asphalt Vivakor uses a proprietary solvent to accomplish a similar outcome. Further, they also use a sealed, closed loop system that eventually separates the solvent from the hydrocarbon yield and returns the solvent so it can be used again. That approach provides an environmentally favorable and cost-effective approach to extracting the hydrocarbons from the sand.

In our view, the above seems quite constructive for Vivakor’s Utah opportunity, but we submit, it is perhaps a bit conceptual. That is, they seem to have the project queued for success, now they need to ramp it to meaningful and consistent revenue. On April 27, 2022, the Company made an announcement that we think is quite topical in that regard:

- *Vivakor Awarded Contract for Sale of Asphalt from its Utah Facility*
- *Potential Value up to \$250 Million over 10 Years Subject to Full Ramp-Up and Capacity*
- *Significant Offtake Agreement Matches with Previously Announced Long-Term Supply & Lease Agreement*

IRVINE, CA / ACCESSWIRE / April 27, 2022 / Vivakor, Inc. (NASDAQ:VIVK), a socially responsible operator, acquirer and developer of clean energy technologies and environmental solutions ("Vivakor" or the "Company"), is pleased to announce the signing of a 10-year contract (the "Agreement") with Hot Oil Transport, LLC ("HOT"), a supplier of asphalt materials, which HOT in turn supplies to Southwest Liquid Asphalt & Emulsions ("SLA"), a major supplier of polymerized asphalt in Southern Nevada. Based on the current asphalt wholesale index price for the Rocky Mountain region, this contract could be valued at up to \$250 million over the life of the contract, provided that Vivakor is able to ramp up and operate its Vernal, Utah site at full capacity.

SLA's largest customer is Las Vegas Paving, one of the largest road construction companies in the state of Nevada, with revenues of more than \$500 million annually. Under the Agreement, Vivakor can provide HOT with up to 50,000 tons of ratable asphalt cement from Vivakor's Vernal, Utah, upon completion of anticipated scaled up operations, annually for a period of ten years. Pricing will be based on the asphalt wholesale index price for the Rocky Mountain region at the time of delivery. Based on the current index pricing range of \$510 to \$600 per ton, this contract could generate between \$25 million and \$30 million in annual sales once the project is operating at full capacity. To operate at full capacity and take advantage of the maximum opportunity under the contract with HOT, Vivakor estimates it would need to add three additional Remediation Processing

Centers (RPCs), as well as ramp up other required infrastructure, at the Vernal, Utah site, with an estimated total cost of \$18 million.

"As this is our first long-term contract for sale of our asphaltic binder, it is an important milestone for Vivakor. We have worked closely with HOT to refine our product to meet their specifications," said Matt Nicosia, CEO of Vivakor. "We have already produced tonnage of asphaltic cement with our Vernal, Utah RPC and believe that by the end of the year we will have ramped up our infrastructure to include three additional RPCs to operate the site to the level required to fulfill the full amount of material requested by HOT on an annualized basis. This could be a significant event for shareholders as this project, when fully scaled, could contribute meaningful profits."

Gene Chrisenbery, Manager of HOT, stated, "Demand for asphaltic binder has been increasing as a direct result of new governmental infrastructure spending and general supply constraints. This long-term contract for Vivakor's asphaltic binder will help meet this increased demand and thus give us an added benefit of asphaltic binder that is reclaimed from waste and produced in an environmentally conscious manner. Our customers are seeking supplies manufactured in the cleanest possible manner and we believe that our relationship with Vivakor will allow us to deliver just that." ...

-About Hot Oil Transport, LLC-

Hot Oil Asphalt, LLC, is a transportation and distribution company specializing in asphalt logistics. Its principals have experience in liquid paving asphalts and emulsion for over 40 years. It distributes and sells asphalt and asphalt related materials to some of the largest road construction companies in the western United States.)

Given the above, our expectation is that the Company's Utah project will begin producing and selling sustainable and near capacity levels of hydrocarbon product in the coming months. Obviously, the next step for Vivakor in Utah is to add RPC units (at an anticipated cost of \$6 to \$7 million each) to ramp production. Clearly, adding units is becoming one of their more topical tasks, which includes raising money which we believe will be in the form of a non-dilutive equipment-based financing. We are comfortable adding that we think they are well into that process.

- Kuwait Project

Recall, in 1991 hundreds of Kuwaiti oil wells, as well as countless other portions of oil infrastructure were set on fire by Iran's Saddam Hussain ostensibly to stall the advancement of U.S. led coalition forces. The impact of those fires on portions of Kuwait was devastating. One of the programs created to deal with the aftermath of the catastrophe is known as the Kuwait Environmental Remediation Program ("KERP").

Below is an excerpt from the inception of KERP describing the program's genesis: [Science Signpost Publishing Inc.](#)
[\[Kuwait Environmental Remediation Program \(KERP\): Remediation Demonstration Strategy \(ss-pub.org\)\]](#)

Kuwait had 114 square kilometers of its desert severely damaged by 798 detonated oil wells at the hands of Iraqi Troops. Crude oil gushed from the damaged oil wells, forming lakes that contaminated over 40 km² of the land. Consequently, wet and dry oil lakes were created in low-lying areas of the desert and contaminated soil piles were generated during the recovery phase to stop the spread of oil. Contaminated land desert altered soil properties, which caused the deaths of plants (e.g. biota) and animals; and penetrated deeper into the soil layers and threatening pollution of precious groundwater resources. The United Nation Compensation Commission (UNCC), Kuwait National Focal Point (KNFP), and Kuwait Oil

Company (KOC) cooperated in a joint project to undertake comprehensive efforts to remediate the approximate 26 million cubic meters of heavily oil contaminated soils.

Demonstration remediation technologies are sought as viable solutions to develop suitable action plans for remediating the heavily oil contamination soil. The objective of this field demonstration study is to determine the viability, applicability and effectiveness of proven remediation technologies in treating oil contaminated soil. This project will be implemented within selected sites in the KOC's operational oil fields in South-East Kuwait (SEK) to remediate of three features (i.e. wet, dry oil lakes and oil contaminated piles). A successful remediation technologies demonstration project will be a key indicator for developing soil remediation strategy plans for full-scale implementation in SEK and other eligible areas.

As part of this initiative, the United Nations allocated nearly \$15 billion for post-Iraq war reparations to clean up Kuwait.

As a part of these efforts (although also in conjunction with another initiative), in January 2018 and July 2019, Vivakor, through a wholly owned subsidiary called Vivaventures Energy Group, Inc., was engaged by Kuwait Oil Company as a subcontractor to address soil remediation in Kuwait. As a result of that engagement, which again referring to the program description above, was aimed at “*demonstration remediation technologies*”, Vivakor was able to deploy one of its RPC units into Kuwait and successfully remediated contaminated material “*from 20% hydrocarbon contamination to just 0.2% hydrocarbon contamination based on third party independent testing performed by ALS Arabia in March 2020*”. Unfortunately, that particular date (March 2020) also coincided with the rise of the Covid19 pandemic, and like much of the rest of the world, Kuwait and the associated remediation project ground to a halt. However, in late 2021, the Company was able to reassemble the pieces of their original efforts into a new agreement.

From the Company's recent S-1 filing (effective 2/11/22):

On December 14, 2021, we, together with our subsidiary, Vivaventures Energy Group, Inc., entered into a Services Agreement (the “Services Agreement”) with Al Dali International Co., a company organized under the laws of Kuwait (“DIC”). The Government of Kuwait and the United Nations, acting through the Kuwait Oil Company (“KOC”) has awarded to Enshaat Al Sayer rights to remediate contaminated soil under the Kuwait Remediation Program pursuant to the South Kuwait Excavation, Transportation and Remediation Project (“KOC Remediation Contract”). To fulfill its role, Enshaat Al Sayer has engaged the Company, through the Company's agreement with DIC, to perform contaminated soil treatment for the KOC Remediation Contract using the Company's patented technology for extracting hydrocarbons, through the Company's Remediation Processing Center (“RPC”) plants. The Services Agreement is subject to DIC and Enshaat Al Sayer entering into a subcontractor agreement and the Company has received a notice letter from such parties, which confirms that such subcontractor agreement has been entered into and is in full force and effect. Such subcontractor agreement is subject to termination upon terms substantially similar to those set forth in the Services Agreement, specifically, providing for a 42-month term with termination upon (i) written consent of both parties; (ii) bankruptcy, dissolution or similar event; (iii) for material breach that is not cured within 60 days' notice thereof (other than non-payment, which is not subject to a cure period); and (iv) non-approval of total optimized study including the bench scale study and pilot plant commissioning results by KOC.

Pursuant to the Services Agreement, the Company and DIC will work together in performing remediation treatment services as subcontractors to Enshaat Al Sayer for the KOC Remediation Contract. Under the Agreement, the Company will supply one pilot RPC

plant already located in Kuwait, one 40-ton per hour RPC plant, and one technical expert to oversee the hydrocarbons contaminated soil treatment service operations pertaining to this contract.

The Company will receive \$50,000 for the successful remediation of the first 100 tons (\$500 per ton) under its subcontractor services for the KOC Remediation Contract. In addition, the Company will receive \$20 per treated ton of soil after the initial 100 tons. The treatment process using the RPC plants is anticipated to generate a bitumen sub-product. The Company and DIC have agreed to sell this sub-product and share the net profits equally (50% to the Company and 50% to DIC), after allocating 30% of the net profits to DIC in the form of a sales and marketing payment, which will be invoiced on a monthly basis, in accordance with the Agreement. Pursuant to the Agreement, we will have a stockpile of at least 444,311 tons with at least 5% oil contamination for us to remediate.

Pursuant to the Agreement, we will provide our pilot RPC plant (already in Kuwait) within two to four months after retrofitting, and we will provide a RPC plant within one year capable of processing 40 tons of soil per hour. We will bear the cost of the related manufacturing, deployment, break-down and spare parts of the RPCs. The RPC plant remediation services must reduce TPH contamination to less than 1%. DIC will provide all other costs for bonds, infrastructure, and operations of the plant.

We will save the potential math from this project for the Operating Overview below, but on the face, it represents another project in the Company's quiver that looks poised to begin accelerating. As described, the project was originally established in early 2018, so they have been at this for some time now. While Covid certainly delayed the advance of the project, it picked up again in late 2021, which brings us to today. Again, we believe the project is positioned to begin making meaningful contributions to the whole, however, much like Utah, this project will require addition RPC units (and the financing to build them) in order to scale.

- Houston Project

While the two projects described above (Utah and Kuwait) were projects that the Company had been developing for some time prior to the onslaught of the pandemic, they also had an eye towards other potential arrangements around the technology (from their S-1, effective, 02/11/22):

We intend to explore expansion opportunities on a global basis, including in places with extreme contamination such as the Ogoni Lands region of Nigeria, oil spill lakes located in Saudi Arabia and Turkmenistan, and naturally occurring oil sands deposits in Kazakhstan, where we believe our technology and service offerings may provide a distinct competitive advantage. We are currently in discussions with several groups for deploying our RPCs for remediation projects (primarily for oil spills, tank bottom sludge and drill cuttings) in Saudi Arabia, Qatar and Texas. Saudi Arabia has the objective to create a circular carbon economy that will ultimately have zero wasted hydrocarbons. Our technology is able to process tank bottom sludge, drill cuttings, and soils from hydrocarbon spills, returning the sand to less than 0.5% contamination while reclaiming the oil for waste energy use.

We also intend to target other hydrocarbon remediation businesses that focus on, among other things, the cleaning of tank bottom sludge and the cleaning of the water used from drilling oil wells. Oil producers generally pay to dispose of sludge at the bottom of storage tanks and contaminated water produced from the drilling of oil wells. We believe that our

technologies could be used to clean these contaminated products, while simultaneously recovering the heavy crude. We believe we will be able to offer these services at a cost that is very competitive with current methods and that our ability to recover the heavy crude for resale will give us a competitive advantage.

Clearly, the Houston project has been on the drawing board, but recent events have brought visibility that did not exist prior. To that end, the Company made the following announcement on May 2, 2022:

- *Vivakor Contracts with EMS Management to Manage its Remediation Processing Center Technology in Houston*
- *Focus to be Remediating the Multi-Billion Ton Global Waste Oil Sludge from Refineries and Midstream Oil Operators*
- *First RPC Unit is Fully Funded and is Expected to be Deployed in June with the capacity to Clean 100 Barrels per Hour and Reclaim up to 1,000 Barrels of Recycled Oil per Day*

IRVINE, CA / ACCESSWIRE / May 2, 2022/ Vivakor, Inc. (NASDAQ:VIVK) ("Vivakor" or the "Company"), a socially responsible operator, acquirer and developer of clean energy technologies and environmental solutions, is pleased to announce the signing of a Master Work Agreement with JVS Holdings Inc., dba EMS Management ("EMS"), for Vivakor's Houston, Texas operations. This Master Work Agreement provides the terms and conditions under which EMS will manage the waste processing for the Company's RPC unit in Houston, Texas pursuant to work orders once Vivakor and/or EMS secures agreements for waste remediation.

The business arrangement is expected to enable the parties to work together in the deployment of Vivakor's Remediation Processing Center (RPC) technology in the Houston area, focusing on processing waste that includes tank bottom sludge, drill cuttings and other waste streams from refineries and midstream customers. Vivakor and EMS have identified potential sites and plan to soon announce a precise location for the deployment of the RPC and will begin the processing of waste oil material once a location and agreement have been secured. EMS will also assist in supplying operational expertise and personnel at the site and procuring waste treatment contracts for Vivakor. The global tank bottom sludge market is estimated to be in excess of 9 billion tons. The Company and EMS believe that one prospective client of EMS on the Texas Gulf Coast needs to remediate more than 70,000 tons of tank bottom sludge this year. Vivakor sees this as a great market opportunity that will also contribute to cleaning up the environment, as more material will be processed instead of sent to a landfill.

Currently Vivakor is manufacturing two RPCs, with one slated to be deployed with EMS in the Houston area by the end of the second quarter of 2022. This RPC was funded through Vivakor's VivaWealth Fund, a Special Purpose Vehicle (SPV), which financing structure is non-dilutive to Vivakor shareholders. Vivakor expects to fund at least four RPCs total this year via SPV financing. When deployed, the RPC in Houston will have the capacity to clean up to 100 barrels per hour of contaminated sludge material, which material is expected to be at least 40% oil by weight, and thus allow the Company to reclaim up to 1,000 barrels a day of a recycled hydrocarbon for reuse.

EMS has a track record of over 28 years of cleaning waste from different hydrocarbon (oil) projects throughout most of the Gulf Coast energy production sectors. EMS has locations in

multiple areas and has a strong presence in Houston, where the first tank bottom sludge RPC projects are expected to be located.

"Part of our corporate strategy is to extend our technology to the most productive and worthwhile regions of the world," stated Matt Nicosia, Vivakor CEO. "Tackling the huge tank bottom sludge problem in America starts with Houston. We are excited to offer the ability to process the oil waste material and assist producers, pipelines, and storage tank owners in significantly reducing the need for landfills for this large waste stream. EMS is the perfect partner to help locate, operate, and attract business arrangements in the Houston area. We envision other locations throughout the Gulf Coast region of the United States. Our technology offers an option to mitigate the need for landfills while producing recycled asphalt cement and recycled transportation fuels as our RPCs can not only clean the soil out of the tank bottom sludge but make the hydrocarbons reusable. This RPC, which was funded through an SPV, is expected to be the first deployment of what is anticipated to be four RPCs financed from SPVs."

EMS Chief Commercial Officer, Todd Hull, stated, "With a backlog of maintenance projects due to the COVID-19 pandemic, many storage vessels are overdue for cleaning and recertification. Vivakor's technology, with EMS's operational expertise, will lead the way for enhanced recovery; turning waste into value streams based on the Reduce - Reuse - Recycle model and driving the circular carbon economy. Our clients, including many of the major oil companies, have been pushing us for a green alternative to disposing of all this waste in landfills, and Vivakor's plan provides us with such a solution."

About JVS Holding, Inc dba EMS Management

Founded in 1994, EMS Management's mission is to deliver environmental cleaning solutions to the rail, marine and terminal assets of North America. EMS is actively engaged with customers in providing innovative solutions for cleaning through green chemistries and technologies that are safer for people, customers assets and the environment. Throughout the cleaning, remediation and maintenance process we are striving to deliver innovation with new technologies that align with ESG goals and the energy transformation. With operations based in Houston, TX, EMS has established itself as a premier provider of railcar cleaning solutions for mobile and fixed base operations servicing the food, oil and petro-chemical industries across the continental United States.

As we alluded to above, this is the least “seasoned” of the Company’s three major projects, but it may also ultimately prove to be the most accretive. We will cover that in the Operating Overview below. In addition, aside from potentially robust economic potential, this particular project coupled with Kuwait may accentuate their ESG posture. Moreover, as we understand it, the hydrocarbons they are recycling from this project may provide their customers with some environmental or other credits that could measurably enhance the economics of their offering. In that instance, we would surmise that Vivakor and its partner may be able to benefit from those enhancements as well. All things considered, we think the Houston project provides a potentially marked open end to the story.

Operating Overview

Currently Vivakor's operations consist of the three projects we laid out above, which for simplicity we have labeled "Utah", "Kuwait" and "Houston". As we also alluded to, we suspect there will be others after they add capacity (RPC's) to these existing projects and get them to scale. As we will discuss, getting these three projects to "scale" will take several RPC's but again, we think other projects are likely forthcoming if these three projects perform as we think they may.

Looking back, the genesis of all these projects was the 2015 purchase of the RPC technology the Company subsequently advanced and improved. Each of these projects utilize that technology. Further, as we noted prior, while we think their initial focus was on using the technology to extract hydrocarbons from the Utah oil sands, they have also continually looked for other places/applications for the technology, which has led to the Kuwait and Houston projects. That said, while the Company is currently operating the Utah facility themselves, we are not sure that was the original plan, and judging from the arrangements in both Kuwait and Houston, we do not think it is the plan going forward. To translate, we think the likely future for Vivakor looks more like Kuwait and Houston than Utah. That is, we think Vivakor will likely seek to create licensing or other similar arrangements with entities entrenched in particular areas that can enhance their own opportunities deploying Vivakor's RPC technology. In essence, that is what they have done with Enshaat Al Sayer in Kuwait and it is what they are putting together with EMS Holdings Inc. in Texas. In each of those cases, Vivakor's partners will largely be responsible for the operations including/around the RPCs, which means that arrangements of that nature, should as we see it, result in nominal incremental corporate overhead.

To boil that down, we have modeled Cost of Goods projections in line with the project economics the Company has provided in their collateral as well as with conclusions provided by Katzen International's Plant Process Assessment. We have provided some color here with respect to our anticipated COGS on a project basis.

In line with our assessment above regarding corporate overhead, we have modeled projections around our assumption that the Company's licensing centric approach will limit marginal corporate overhead growth. That said, we are modeling significant revenue growth around the ramp up of the three projects we have identified. However, we also recognize that the Company has historically operated in a capital constrained environment, so we fully expect G&A to "catch up" to support some of the revenue growth we are anticipating. However, to reiterate, we fully expect operating margins to improve as the projects begin to achieve some scale.

The above noted, here are some of the operating metrics we are anticipating/modeling with respect to each of the three identified projects. Some of these items are redundant because we touched on them above. We would add, as we said, each of these projects (do/will) utilize the Company's RPC units. As a result, much of the top line production information is the same for each project. That is, each RPC unit is capable of processing approximately 20 tons of material per hour, which on a 24 hour per day basis equals 480 tons per day. We have developed our models around utilization numbers of between 80% and 85%. To put that into perspective we believe they intend to operate 6 of 7 days per week (85.7% utilization) and we assume there will be some additional down time for maintenance or other issues. Beyond utilization, production levels will be driven by the number of RPCs deployed at each project.

From production levels we move to hydrocarbon content assumptions. As we addressed above, geological surveys suggest Asphalt Ridge contains average bitumen contents in the 10% to 18% range. The Company's project economics examples assume 12% content/recovery and we are using a similar number. On the other hand, the hydrocarbon contents in the tank bottom project (Houston) look more like 40% hydrocarbon

content. Obviously, hydrocarbon content/recovery will prove topical for each project and it will likely include some variability one period to the next. We would add, while we have generally attempted to state results in tonnage (including prices), for the sake of conversion, we are assuming that a ton is equal to 5.2 barrels.

We have assumed forward asphalt prices as a function of forward (projected) oil prices. We have illustrated the correlation between the two above, but that correlation is not perfect. Moreover, if our assumptions regarding the infrastructure bill increasing asphalt demand (that refineries may struggle to meet) is correct, our correlation assumptions may change. Further, if infrastructure spending does not roll out as some assume, that could negatively impact demand and ostensibly prices. We would add, while we have generally stated the Company's product yields in terms of asphalt, a portion of their production is a light crude that may experience some equivalent pricing differences. We will adjust our product pricing assumptions as visibility dictates.

Production levels, hydrocarbon content and number of operating RPC units, combined with the prevailing prices of the hydrocarbons they are selling will drive the bulk of each projects' revenues. Beyond that, each project will be subject to varying production costs (although we expect those to be similar with each) and thereafter, Vivakor's portion of the remainder is a function of individual agreements with its respective partners.

Below are some of the salient variables of each project given some of the largely constant variables we noted above.

- **Utah**

We are assuming hydrocarbon content rates in Utah of 12%. That is a number we will monitor over time. While for now we are assuming this number to be constant, that will likely not be the case. For instance, we suspect they will need to move overburden at times which may lower overall content, and contents will not be constant in any case. Given the geological surveys, while we are assuming 12% content our sense is that over time, it could be higher. This is a number we will monitor as the Company provides visibility.

The Company believes it will be able to sell clean sand for \$10 per ton. As we suggested, there is some information that suggests sand prices may be on the rise. We will adjust that assumption as well if appropriate.

There are a handful of costs associated with extracting a barrel of asphalt and they include royalties, mining costs, electricity, personnel, permitting, insurance, depreciation and a host of others. We will not address that detail here, but in general, it looks like those numbers will approximate something around \$30 per barrel. Again, we have modeled these in line with Company and other third-party evaluations, but we will assess these against actual results as those become available.

As a rough estimate to the above, the Company projects that a single RPC in Utah operating at near capacity, extracting 12% hydrocarbons at \$70 oil should generate annual revenues in the \$8.5 million range and EBITDA of around \$5 million. Our model is in that ballpark.

The Company currently has 1 RPC unit in Utah. They have 2 units currently being produced in Denver, Colorado, and they expect to deploy one in the current quarter (2Q-F22) and then the second in 3Q-F22. We believe they will likely deploy the first one in Houston and the second in Utah, bringing that total to 2 and their current offtake agreement thresholds would require 4 units. To reiterate, the Company estimates its existing leaseholds contain 135 million tons of sand. If our math is correct, at roughly 500 tons per day, it would take 800+ years for a single unit to do the job, or by extension, 200+ years for 4 units. We suspect they may be treating oil sands in Utah for some time to come.

- **Kuwait**

The Company's arrangement in Kuwait is much different than that of Utah. First, Vivakor will provide RPC units and will pay for maintenance of the unit as well as an onsite engineer, but their partner will operate the project. In return for providing the RPC technology, Vivakor will receive a toll fee of \$20 per processed ton. In addition, they will receive 35% of the net profit generated from selling the asphaltic cement the project reclaims.

As a rough estimate to the above, the Company projects that a single RPC in Kuwait operating at near capacity, extracting 15% hydrocarbons at \$70 oil should generate annual revenues in the \$5.5 million range with associated expenses limited to the maintenance and engineering requirements referenced above as well as any depreciation related to the units.

We have used the same methodology to estimate product sale prices as we described above for Utah.

The Company currently has 1 unit in Kuwait. The Company indicates that it would like to ultimately deploy 10 units in Kuwait which they estimate has 27 million tons of contaminated material to remediate. If our math is correct, at roughly 500 tons per day, it would take 180 years for a single unit to do the job, or by extension, 18 years for 10 units.

- **Houston**

Vivakor has a Joint Venture with EMS Management (Houston) that looks a bit like a combination of Utah and Kuwait. First, like Kuwait, they will receive a \$20 tolling fee off the top of each ton of waste that they take in, while their partner will receive a 5% commission for procuring feedstock. On the other hand, more like Utah, Vivakor will be responsible for operating the remediation units(s) and processes as well, while EMS will leverage their existing customers as well as perhaps others to provide remediation feedstocks. Again, Vivakor's operating statement in this arrangement will look a bit more like Utah in that they will pay for the operating expense of the remediation process. The bigger difference between this project and the other two is the feedstock.

The Company estimates that the feedstock collected from the bottom of the storage facilities of EMS's customers will contain "at least 40% oil". On the face, if they gather 3X the amount of hydrocarbons from processing a (similar) ton of feedstock than the other two projects, then the margins from Houston should be commensurately higher than those of Utah and Kuwait.

As a rough estimate to the above, the Company projects that a single RPC in Houston operating at near capacity, extracting 40% hydrocarbons at \$70 oil should generate annual revenues in the \$26 million range and EBITDA of around \$20 million.

We have used the same methodology to estimate product sale prices as we described above for Utah.

As of this writing, the Company has not deployed any units in Texas, but EMS indicates that they have multiple locations with access to existing customers where it believes units could be successfully deployed. We believe one of the two units currently being constructed in Denver will be deployed in Texas per this agreement. Also, the Company has alluded to the notion that they think some of this product could be used as (or further converted to) a designated recycled fuel. In that case, we think the ultimate sale price of the

product could be markedly higher than associated market prices without these subsidies. We will be paying particular attention to that potential detail.

Lastly, at this point, we are limiting our modeling to the RPC units we have visibility around, which is 4. To recap, they have 1 in Utah, 1 in Kuwait and two being built in Denver. We suspect (but do not know) that 1 of the in-process units will go to Houston and the other to Utah, and we are anticipating those deployments sometime in the second half of F2022. That may or may not be where they end up, and we suspect that decision will be made around the relative perceived business opportunities of each project.

Further, the Company currently has programs in place to finance new RPC units and those programs are non-dilutive. We expect them to continue to seek non-dilutive RPC financing alternatives.

Currently, the most topical questions around the business, and again, the portion of the story we have limited our modeling to, is “can they get the four identified RPC’s into service and producing at or near full capacity (soon), and, between production costs and prevailing commodity prices, can they make a profit doing that”? However, beyond that, the next leg in the story will center on their ability to finance, build and deploy additional units, assuming the added demand we have laid out materializes. We think it is safe to say that if they can execute at or near our modeling with the first 4 units, their flexibility and resulting cost of capital therein will improve markedly. That is another item we have on our list to monitor as we move forward.

Management Overview

- C-Suite

Matt Nicosia

Matthew Nicosia joined Vivakor as Chief Executive Officer and Chairman of the Board in 2011. Prior to joining the Company, Mr. Nicosia co-founded Dermacia Inc. in 1999, a dermatology product development Company. In February 2019, Mr. Nicosia joined Ridepair Inc., a software development company focused on the transportation market, as Chairman of the Board. Mr. Nicosia joined the Board of Directors of NarcX Solutions Inc., a developer of onsite drug destruction technologies in June 2019. During 2018, Mr. Nicosia co-founded and has since served as co-Chairman of the Board of Prosperity Utah, a non-profit economic think tank focused on the State of Utah. Since April 2018, Mr. Nicosia has served on the Board of Directors of CannapharmaRx Inc., a public company which trades on the OTC Markets. Mr. Nicosia received his Bachelor of Arts degree from Brigham Young University and a MBA from Pepperdine University.

Tyler Nelson

Tyler Nelson joined Vivakor on a part-time basis as Chief Financial Officer in 2015 and has served as full-time Chief Financial Officer since June 30, 2020. Mr. Nelson is a CPA who began his career in Audit and Enterprise Risk Services at Deloitte & Touche. He worked with clients with assets of more than \$100B and annual revenues of more than \$15B, which are considered some of the most respected financial institutions in the world. Mr. Nelson earned a Master’s Degree in Accountancy from the University of Illinois- Urbana-Champaign, and a Bachelor’s Degree in Economics with a minor in Business Management from Brigham Young University.

Daniel Hashim

Daniel Hashim joined Vivakor as Chief Scientific Officer in 2017. Dr. Hashim has extensive experience in the areas of nanoscience research, advanced materials synthesis, characterization, application, innovation and technological entrepreneurship. In addition to leading scientific efforts for Vivakor and its related

companies, Dr. Hashim has served as the Founder, Chairman and CEO of CSS Nanotech, Inc. (“CSS”) since 2014. CSS is a nonmaterials research and development company that designs and commercializes useful structural nanomaterials that exhibit “safe-to-handle” nanofunctionality on a macro-scale, to include carbon filtration media, water purification, oil spill remediation, structural composite materials, electrode materials, petrochemical refining and thermal management systems. Mr. Hashim holds a Bachelor’s Degree in Materials Science Engineering from Rensselaer Polytechnic Institute, with a PhD from Rice University in the field of Materials Science and NanoEngineering.

- Advisory Board

Dr. Khalid Bin Jabor Al Thani

Dr. Khalid brings a host of accolades and accomplishments to the Company. He is the Founder and Chairman of the Qatar Cancer Society, and he has served as its Chairman since its inception in 1997. He has also served as Chairman of the Gulf Union Against Cancer since 2000. In addition to his work with the Qatar Cancer Society and the Gulf Union Against Cancer, Dr. Khalid also served as the Vice Chairman of the National Health Authority, which replaced the Ministry of Public Health in Qatar. Dr. Khalid graduated from Nova Southeastern University in Ft. Lauderdale, FL, with a Masters of Health Care Administration. His emphasis is in both planning and budgeting. VVEG will call upon Dr. Khalid’s expertise and vast global experience as it further positions itself in the Energy sector abroad.

Ron Chevalier

Ron R. Chevalier, a recipient of three Life Saving Awards The Red Cross REAL HEROES Award, Shell Oil CEO Life Saving Award and Washington State Governor’s Life Saving Award, as Head of Environmental Health & Safety. The Social Responsibility Initiatives at Vivakor, Inc are focused around ensuring that all Vivakor, Inc technologies and projects are first safe, for all involved and second, bettering the environment.

Garen Kolajian

Garen Kolajian has more than 16 years of progressively responsible experience. He started his career in Consulting Services at Deloitte. He has done excessive studies both in private and governmental sectors and worked on Mega governmental projects. Garen has led companies through start-up, survival, turnaround, and growth modes. His understanding of both domestic and international business channels encompasses creating development plans, conducting feasibility studies, property analysis, financial modeling for various projects and secure funding for future projects. Garen earned his Bachelor of Science in Business Management & Economics, with Concentration in Finance from American University of Science & Technology. He also speaks Armenian and Arabic, which assists with our Middle East projects and Operations.

Risks and Caveats

Vivakor has spent the past six or seven years (from the time of the RPC technology acquisition) essentially trying to improve and build a business around that technology. While we think they have made marked progress towards that end, they still need to close the loop on their existing projects and that will include additional challenges they may or may not be able to overcome.

We submit, a good portion of our thesis here is built on the improving macro tailwinds we described above. To cut to that chase, we have seen considerable volatility in oil prices over the past year, two years, five years, and ten years. If we are being honest, every time we think we may have it figured out, something comes along and reminds us that we do not. We think that is true of most of the experts in the space *if they* are honest about it. The point is, as we sit here today, we think the chance of higher to modestly lower future oil prices are more likely than *dramatically lower* oil prices, but again, that could prove *dramatically* wrong. While we think Vivakor can produce oil/oil equivalents at competitive prices, and we have modeled sequentially lower future oil prices and lower oil prices in general will have a negative impact on Vivakor. To the degree we get that wrong, our model will likely prove aggressive. We would add, other macro issues, recession for instance, could also impair the Company's opportunities.

Speaking of tailwinds, we have also argued that the Infrastructure Investment & Jobs Act will drive demand for asphalt (and likely pricing), which would be highly positive for Vivakor. Without heading down the political rabbit hole, we have a hard time hanging our hat on much of anything that comes out of Washington these days and that would include the timing and implementation of the Infrastructure Investment & Jobs Act. The good news appears to be that the nation's roads and bridges *really do need repair*, so it seems reasonable to us that at least some portion of the Act *really will* fix roads and bridges. That said, government being government, the Act may or may not prove to drive asphalt demand as much as we are anticipating. Moreover, we have also suggested that refineries may be unwilling or perhaps even unable to respond to increasing demand as users might hope. We could be wrong about that, as the private sector (when left to its own devices) often has a way of optimizing imbalances.

To date, the Company has yet to operate an RPC at anything near full capacity at any of the three projects. Moreover, as we noted above, they have yet to place a unit in Houston, although we believe they intend to place one of the in-process units into Houston once completed. We are projecting they will get the two currently deployed RPCs (Vernal and Kuwait) into *full* operation in 3QF22. We are also projecting the deployment of units #3 and #4 in Q3 (Vernal) and Q4 (Houston) respectively. That said, our projections include several assumptions about the deployment and full capacity operations of the 2 +2 RPCs, the demand for their resulting products, the price of oil and/or asphalt and a host of other variables. Succinctly, if we are wrong about the timing of the deployment of the RPCs, and/or about any of the other variables we have discussed, our projections and resulting price targets will likely prove to be overstated.

Moving down the Operating Statement, because they have not filed for some time, we do not have much historic data to back test expenses against. We do not suspect it would matter much because regardless, those numbers would not tell us what Vivakor expenses will look like when they are operating and generating consistent revenues. To translate, we think we have estimated reasonable expense trajectories given the projected size and nature of the business, but we submit, we could certainly be understating these (or overstating them for that matter). We will make appropriate adjustments to this as relevant visibility improves.

We have argued that at least two of the current projects (Houston and Kuwait) are ESG stories. In Kuwait they are cleaning up pollution left by Iraq's invasion, and in Houston they are recycling sludge that would otherwise end up in a landfill. The ESG case in Utah is perhaps less clearcut. Historically, there have been groups that have opposed various attempts by enterprises looking to extract hydrocarbons from oil sands. As we understand it, at least some of those objections were related to water issues, and since Vivakor's process does not use water/steam as a catalyst, then one could surmise that they might avoid some of that resistance. However, some of the objections were also related to open pit mining issues as well. Our point is, we suspect Vivakor could encounter ongoing environmental scrutiny that could provide some challenges.

As with many of the stories we cover, Vivakor is operated by a relatively small group of people. As a result, certain individuals play outsized rolls in the operations of the Company and as such their continued participation is likely paramount to the Company's success. As we said, that is not uncommon, but in Vivakor's case it may be particularly topical with respect to CEO and Chairman Matt Nicosia. In our view, his departure for one reason or another would likely be highly detrimental to the Company.

We noted above that Vivakor just recently began filing again, which it has not done since 2010. Absent the filings this may be a bit anecdotal, but we think it is fair to suggest that it has been "bootstrapped" for much of the past several years. As we noted, they filed an S-1 (effective 02/11/22) congruent with an equity underwriting through EF Hutton, a division of Benchmark Investments, LLC. The transaction was a firm commitment underwritten public offering of an aggregate of 1,600,000 shares of the Company's common stock, at a public offering price of \$5.00 per share. The Common Stock began trading on the Nasdaq Capital Market under the symbol VIVK on 02/14/22. As we noted, we believe the Company's preference is to finance new RPCs with non-dilutive forms of capital, which may mean using approaches like additional Special Purpose Vehicles ("SPV"), lease arrangements, debt or other iterations. However, if the Company's path to profitability takes longer than they (we) anticipate, they could certainly need to return to the capital markets for dilutive equity to support working capital.

Since the offering of the shares in February (2022), the stock has discounted considerably, and the stock remains volatile. We do not expect that to change any time soon and given the fragile state of the equity markets currently, it may continue to be *more volatile* than it might otherwise be.

These are some of the more topical risks we have identified, but there are likely others we have missed or that could evolve after this initiation.

Summary & Conclusion

Vivakor is a quintessential example of why we (Trickle) tend to hang around *so long* in some of the stories we hear/follow/cover. After they presented at our 2019 conference, the macro environment around them turned about as ugly as it possibly could. We submit, that was true of many companies, but in the case of Vivakor, not only did the pandemic shut down the projects they were just beginning to bring online (Utah and Kuwait), but at the same time oil prices traded *below zero*. That environment not only blew a hole in the business plan, but also compromised their capital (and filing) efforts. We have been providing equity research for nearly 30 years and we have seen enough to suggest that there are very few things we would say could *never happen* and negative oil prices was one of them. Then again, so was negative interest rates. never say never.

On the other hand, as negative as the macro environment was for the months following their presentation, the past six months or so have been perhaps equally positive. Over the past six months, the company has achieved the following milestones:

- Their registration statement went effective, paving the way for the listing and subsequent trading of the stock.
- They completed an \$8 million equity financing
- Completed the lease of the Utah property.
- oil prices (and related asphalt prices) have risen dramatically, markedly improving the economics of their business.
- The federal government passed landmark infrastructure legislation, the largest piece of which is to be spent building roads and bridges ostensibly increasing future demand for asphalt for the foreseeable future.
- Signed an offtake agreement for what is 4X the amount of asphalt they can produce with a single RPC in Utah (setting the stage fore the deployment of more RPCs in Utah).
- Signed a Master Work Agreement with JVS Holdings Inc., dba EMS Management ("EMS"), to assist in the remediation of oil sludge from the storage and transport assets of EMS's customers. They intend to deliver an RPC to this project in Q3F22 and this project will likely be the Company's most profitable of the three we have identified and discussed above.

The turn of fortunes is appreciable.

The above said, as the most recent filing reflects (Q1-F22, ended March 31,2022), while the stars look to be aligning here, they still need to do some blocking and tackling to:

1. get the 2 existing RPCs operating and generating revenues
2. get the two in-process RPCs delivered, deployed and operating
3. get additional RPCs financed, delivered, deployed and operating

As we noted in our Risks and Caveats section above, the timeline to get these things done has been established (especially #1 and #2) but getting them done according to plan remains a risk in the story. We will monitor that progress as we move forward.

The above noted, **recognize that our model assumptions and resulting price targets are based solely on the deployment of these four units.** Specifically, if the RPCs are deployed as we think and each project contributes what we are modeling, the RPC's can collectively generate annual revenues in the \$45 million range depending on prevailing oil prices. That brings us to our next table.

Table 9.

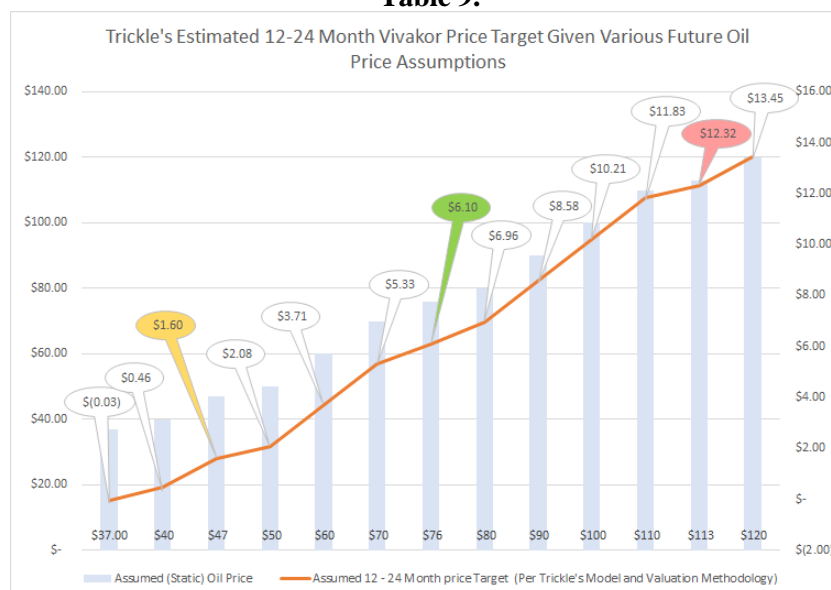


Table 9 above is a sensitivity analysis we have created around various future oil prices. While we just noted that getting RPC's operating is Vivakor's primary task, we also addressed that there are other variables that will impact its success and future oil prices are one of the more objective. The table above was generated by imputing various assumptions regarding (static) future oil prices and reflecting their impact on our model projections. For instance, the **yellow bubble** above reflects the current price of the stock, which in the context of our model assumptions, implies future oil prices of \$47 per barrel. In contrast, the **green bubble** reflects levels similar to the pricing we used to generate our initiating price target (roughly \$76 per barrel, although our target assumptions reflect declining prices from higher current levels). Lastly, the **red bubble** reflects our model targets assuming the price of oil at the time of this writing (\$113/bbl). To translate, if we were to assume \$113 oil from now into the foreseeable future, our target would be \$12.32, or roughly twice our initiating coverage target.

To be clear, we do not expect the Company to deploy 4 RPC units and stop there. As we touched on above, we think their view is that they could deploy *multiples of 4 units* across the current project footprint, and we suspect other projects may be forthcoming as well. On the other hand, there are certainly scenarios where that could be the case (inability to finance new units, a dramatic drop in oil prices to levels that could impact the economics of new units, supply chain issues delaying the completion of new units, delays in federal programs to build new roads to name a few). However, our expectation is for additional units beyond these first 4, and we will adjust our models and targets accordingly if/when that visibility becomes available. To that end we would note, **roughly speaking**, (depending in part on location), if we hypothetically add RPCs in 2023 to our modeling, each additional RPC adds roughly \$1.00 to our target.

To reiterate, we think Vivakor is setting up to take advantages of the turn of a few friendly cards, which we think could lead to measurably positive comparative and sequential numbers over the next few quarters. Thereafter, we think the addition of RPCs, even into the existing projects could provide a basis for additional valuation legs to the story. In the meantime, for now, our targets include relatively aggressive discounts to account for risks associated with the potential variability of our future cash flow assumptions.

We are initiating coverage of Vivakor shares with an allocation of 4 and a 12-24 month price target of \$6.00. we will reassess all our models/targets as additional visibility with respect to the deployment of existing RPCs as well as additional RPCs becomes available.

Projected Operating Model

Vivakor, Inc.						
Projected Operating Statement (Revised)						
By: Trickle Research						
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate
	<u>3/31/2022</u>	<u>6/30/2022</u>	<u>9/30/2022</u>	<u>12/31/2022</u>	<u>Fiscal 2022</u>	<u>Fiscal 2023</u>
Revenues	\$ -	\$ 348,651	\$ 5,669,758	\$ 10,541,508	\$ 16,559,917	\$ 45,537,338
Cost of revenues	\$ -	\$ 296,068	\$ 1,615,687	\$ 2,684,804	\$ 4,596,559	\$ 14,020,918
Gross profit	\$ -	\$ 52,583	\$ 4,054,071	\$ 7,856,704	\$ 11,963,358	\$ 31,516,420
Operating expenses:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sales and marketing	\$ 191,339	\$ 206,973	\$ 313,395	\$ 410,830	\$ 1,122,537	\$ 1,710,747
General and administrative	\$ 1,312,807	\$ 1,113,946	\$ 1,326,790	\$ 1,521,660	\$ 5,275,204	\$ 6,221,494
Bad debt expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Amortization and depreciation	\$ 375,218	\$ 404,886	\$ 404,886	\$ 404,886	\$ 1,589,876	\$ 1,619,544
Total operating expenses	\$ 1,879,364	\$ 1,725,805	\$ 2,045,071	\$ 2,337,376	\$ 7,987,617	\$ 9,551,784
Gain (Loss) from operations	\$ (1,879,364)	\$ (1,673,222)	\$ 2,009,000	\$ 5,519,328	\$ 3,975,741	\$ 21,964,636
Other income:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Equity investment loss	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Gain (loss) on disposition of asset	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unrealized gain (loss) on marketable securities	\$ 1,239,566	\$ -	\$ -	\$ -	\$ 1,239,566	\$ -
Interest income	\$ 6,378	\$ -	\$ -	\$ -	\$ 6,378	\$ -
Interest expense	\$ (91,965)	\$ (365,003)	\$ (365,003)	\$ (365,003)	\$ (1,186,973)	\$ (1,460,010)
Other income	\$ 150	\$ -	\$ -	\$ -	\$ 150	\$ -
Total other income (expense)	\$ 1,154,129	\$ (365,003)	\$ (365,003)	\$ (365,003)	\$ 59,121	\$ (1,460,010)
Gain/Loss before provision for income taxes	\$ (725,235)	\$ (2,038,224)	\$ 1,643,997	\$ 5,154,325	\$ 4,034,863	\$ 20,504,626
Benefit (provision) for income taxes	\$ 800	\$ -	\$ -	\$ 656,149	\$ 656,949	\$ 2,607,694
Consolidated net gain (loss)	\$ (726,035)	\$ (2,038,224)	\$ 1,643,997	\$ 4,498,176	\$ 3,377,914	\$ 17,896,932
Less: Net Gain/(Loss) attributable to noncontrolling interests	\$ (125,152)	\$ 41,838	\$ 570,000	\$ 780,000	\$ 1,266,686	\$ 3,120,000
Net loss attributable to Vivakor, Inc.	\$ (600,883)	\$ (2,080,063)	\$ 1,073,997	\$ 3,718,176	\$ 2,111,228	\$ 14,776,932
Net loss attributable to common shareholders	\$ (600,883)	\$ (2,080,063)	\$ 1,073,997	\$ 3,718,176	\$ 2,111,228	\$ 14,776,932
Dividend on preferred stock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net income loss to parent	\$ (600,883)	\$ (2,080,063)	\$ 1,073,997	\$ 3,718,176	\$ 2,111,228	\$ 14,776,932
Basic net Gain (Loss) per share	\$ (0.04)	\$ (0.14)	\$ 0.07	\$ 0.25	\$ 0.14	\$ 0.98
Fully Diluted Gain (Loss) per shares	\$ (0.04)	\$ (0.14)	\$ 0.07	\$ 0.25	\$ 0.14	\$ 0.98
Basic weighted average common shares outstanding	13,730,159	15,053,619	15,068,619	15,083,619	14,734,004	15,121,119
Fully Diluted weighted average common shares outstanding	13,730,159	15,053,619	15,068,619	15,083,619	14,734,004	15,121,119

Please note: this report was revised from its original transmission as the above model included an error which was subsequently corrected.

General Disclaimer:

Trickle Research LLC produces and publishes independent research, due diligence and analysis for the benefit of its investor base. Our publications are for information purposes only. Readers should review all available information on any company mentioned in our reports or updates, including, but not limited to, the company's annual report, quarterly report, press releases, as well as other regulatory filings. Trickle Research is not registered as a securities broker-dealer or an investment advisor either with the U.S. Securities and Exchange Commission or with any state securities regulatory authority. Readers should consult with their own independent tax, business and financial advisors with respect to any reported company. Trickle Research and/or its officers, investors and employees, and/or members of their families may have long/short positions in the securities mentioned in our research and analysis and may make purchases and/or sales for their own account of those securities. David Lavigne does not hold a position in Vivakor, Inc.

Trickle Research co-sponsors two microcap conferences each year. Trickle Research encourages its coverage companies to present at those conferences and Trickle charges them a fee to do so. Companies are under no obligation to present at these conferences.

Vivakor has paid fees to present at investor conferences co-sponsored by Trickle Research.

Reproduction of any portion of Trickle Research's reports, updates or other publications without written permission of Trickle Research is prohibited.

All rights reserved.

Portions of this publication excerpted from company filings or other sources are noted in italics and referenced throughout the report.

Rating System Overview:

There are no letters in the rating system (Buy, Sell Hold), only numbers. The numbers range from 1 to 10, with 1 representing 1 "investment unit" (for my performance purposes, 1 "investment unit" equals \$250) and 10 representing 10 investment units or \$2,500. Obviously, a rating of 10 would suggest that I favor the stock (at respective/current levels) more than a stock with a rating of 1. As a guideline, here is a suggestion on how to use the allocation system.

Our belief at Trickle is that the best way to participate in the micro-cap/small cap space is by employing a diversified strategy. In simple terms, that means you are generally best off owning a number of issues rather than just two or three. To that point, our goal is to have at least 20 companies under coverage at any point in time, so let's use that as a guideline. Hypothetically, if you think you would like to commit \$25,000 to buying micro-cap stocks, that would assume an investment of \$1000 per stock (using the diversification approach we just mentioned, and the 20-stock coverage list we suggested and leaving some room to add to positions around allocation upgrades. We generally start initial coverage stocks with an allocation of 4. Thus, at \$1000 invested per stock and a typical starting allocation of 4, your "investment unit" would be the same \$250 we used in the example above. Thus, if we initiate a stock at a 4, you might consider putting \$1000 into the position ($\$250 * 4$). If we later raise the allocation to 6, you might consider adding two additional units or \$500 to the position. If we then reduce the allocation from 6 to 4 you might consider selling whatever number of shares you purchased with 2 of the original 4 investment units. Again, this is just a suggestion as to how you might be able to use the allocation system to manage your portfolio.

For those attached to more traditional rating systems (Buy, Sell, Hold) we would submit the following guidelines.

- A Trickle rating of 1 thru 3 would best correspond to a "Speculative Buy" although we would caution that a rating in that range should not assume that the stock is necessarily riskier than a stock with a higher rating. It may carry a lower rating because the stock is trading closer to a price target we are unwilling to raise at that point. This by the way applies to all of our ratings.
- A Trickle rating of 4 thru 6 might best (although not perfectly) correspond to a standard "Buy" rating.
- A Trickle rating of 7 thru 10 would best correspond to a "Strong Buy" however, ratings at the higher end of that range would indicate something that we deem as quite extraordinary..... an "Extreme Buy" if you will. You will not see a lot of these.